

# MARINE RECORD

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## LAKE LIGHT-HOUSE TENDERS.

One of the earliest measures to be urged upon the attention of the House and Senate when Congress meets will be the pending bill for the construction of two large light-house tenders. Senator McMillan introduced this bill at the last session, and finding it impossible to secure consideration for special legislation made an attempt to incorporate the

measure in one of the annual appropriation bills. The Senate Committee on Appropriations declined to consider the proposition on the ground that as soon as the war was over the government would find itself with a large number of small vessels on hand which would prove quite serviceable in the light-house and revenue marine. Since the close of the war, however, it has become apparent that there are no vessels that can conveniently be sent to the lakes capable of performing the services for which the projected light-house tenders were designed. It has been found necessary to supply at least two vessels of considerable size in order to economize the time required in taking out and putting in of gas buoys on the lakes. If an expeditious means of doing this work could be supplied the buoys could be distributed earlier and left in place later than at present, thereby greatly facilitating navigation at the opening and closing of the season. Senator McMillan is thoroughly alive to these considerations, and as he has Secretary Gage's hearty endorsement of the project for building two large tenders, he will urge his bill vigorously as soon as Congress meets.

## LAKE SUPERIOR LEVELS.

J. H. Darling, of the Government Engineers' Corps, has given out his monthly statement of the stage of water for Lake Superior. The mean level for Lake Superior at Marquette in October, 1898, was 1.01 feet above level low water datum. This is 0.06 foot, or  $\frac{3}{4}$ -inch lower than it was during the preceding month, or 0.18 foot, or 2 inches lower than in October last year, and 0.21 foot, or  $2\frac{1}{2}$  inches higher than the average October stage for the past 26 years.

## A NOVEL SALVAGE JOB.

A somewhat novel method of saving a wrecked steamer was recently employed in the case of the cattle ship Milwaukee, which was stranded in a dense fog on rocks on the Aberdeenshire Scottish coast. The forepart of the vessel was held firmly on the rocks, so it was decided to cut her in two and devote the entire energies of the wrecking crews to saving the after portion. By the aid of dynamite and other wrecking appliances this was successfully accomplished, and two-thirds of the steamer, including her engines, was salvaged and towed to the Tyne, where it is now undergoing repairs. A new bow will be built and joined to the older part in the dry dock, making the vessel virtually as good as when first launched. This is sacrificing a part to save the whole with a vengeance, and the project was an eminently successful one.

## LUMBER OPERATIONS AT THE HEAD OF THE LAKES.

There are seven sawmills at the head of the lakes that will run till ice forms on the bay and prevents further operations. These are the Merrill & Ring, Mitchell & McClure, Duncan, Brewer & Co., Lesure, McCord & Murray mills. The Lesure mills shut down a short time ago, but resumed after receiving a fresh supply of logs. The output of the mills this year will be about 300,000,000 feet, which will be an increase of about 15,000,000 feet over the cut of 1897. Had logs been obtainable at all times for all the mills the cut this year would have been at least 325,000,000. Lumber shippers are just beginning to make up their lists of sold and unsold lumber and amounts on dock. As compared with previous seasons at or near the close of navigation there is little unsold lumber to carry through the winter, and a busy season is already promised for next year. The work of putting in logging camps in the vicinity of Duluth is now in full swing. It will be one of the busiest winters in the history of logging operations in the northwest. Men are scarce, but wages are good, and loggers expect that they will be able to procure all the help they require.

## REMOVAL OF WRECK.

Colonel Lydecker, Corps of Engineers, U. S. A., stationed at Chicago, and in charge of the rivers and harbors on Lake Michigan, says that soon after the wreck of the steamer H. A. Tuttle in such a manner as to block the entrance to Michigan City harbor, he gave the customary 30 days' notice to the owners and underwriters to remove the wreck. Since then the boilers and engines were sold to Crosby, of Milwaukee and the notice was also served on him. Thus far no move has been made to get the wreck out of the way. The time of notice will be up in ten days, and the colonel thinks it would be ample time for the new owners to save some of the machinery and completely remove the wreck by dynamite. If this is not done he will begin steps immediately thereafter to do the work. Capt. Dunham, of Chicago, estimates that it would cost \$5,000 to do the job, and it is likely that in the event Crosby does nothing a contract will be made with Dunham or one of the other Lake Michigan wrecking companies. It is absolutely necessary that the entrance to the port be cleared before ice sets in. More than 20,000,000 feet of lumber has been contracted to be brought down to Michigan City this fall and none of this can be removed at this time. If the ice makes heavy through the winter the harbor is not used, but if the weather is no worse than it has been of recent years, steamers will make occasional trips to the port all winter.

## LARGE INCREASE TO THE NAVY.

A statement prepared by Commodore Hichborn, chief of the Construction Bureau, U. S. Navy, shows that at the beginning of this month the Navy Department had under construction in the various parts of the country 55 vessels, a larger number than ever undertaken before in the history of the country.

There are eight battleships, and of these the Kearsarge, at Newport News, had advanced 71 per cent. toward completion, while her sister ship, Kentucky, has a percentage of 69. The Illinois is 57 per cent.; Alabama, at Cramp's, 65, and the Wisconsin, at the Union Iron Works, 52 per cent. completed. The sheathed cruiser Albany, which the United States bought on the stocks in England, is exactly half finished.

The 22 torpedo boats contracted for show percentages of completion ranging from nothing to 99 per cent., the latter in the case of the Rowan, at Moran Bros.'

## SAND BEACH PIERS DAMAGED.

Custodian Rice, of Sand Beach harbor of refuge, reports to Col. Lydecker, Corps of Engineers, U. S. A., that during the recent heavy northeast gale considerable damage was done to the main pier of the breakwater. The seas, which came over with great force, tore off a lot of the seawall, and even tore up much of the deck, and carried away large quantities of the boulder stone with which the cribs are filled.

This bears out the oft repeated warning of Col. Lydecker in his annual reports to the head of the engineer department, that it was only a question of a short time when Congress would be compelled to appropriate a large sum to concrete the piers from a point below the water line up to their present height. The natural depreciation of the superstructure through the action of sun, snow and heavy weather is very great. Their combined action is so weakening the structure that every year the gales have more disastrous effects upon it.

It would be in line with the best engineering advice, if the superstructure on government work was all to be of concrete in the future, as the appearance of many of the old wooden piers, and even breakwaters at lake ports are a disgrace to the government, and will be until replaced by stone or concrete.



NEWS AROUND THE LAKES.

BUFFALO.

*Special Correspondence to The Marine Record.*

It is stated that an effort will be made to induce the Light-House Board to adopt the electric siren in place of the foghorn in use at this port.

The line steamers are not handling the amount of east-bound freight that they usually do at this season of the year because the all rail rates are lower than the lake and rail.

The steamer Maritana left the dry dock on Wednesday after repairing the damages sustained from the collision with the Starucca. The latter is unloaded and goes into dock for survey and necessary repairs on Thursday.

The C. & B. Line steamer City of Buffalo will not be laid up this week, and should business continue as brisk as at present, she might be continued on the run until December 1st. The season has been an unusually profitable one, and it is for this reason that they have deviated from their usual custom of taking one of the boats off November 15th.

Capt. William Leonard, a well-known vesselman, died suddenly at his home in Ogdensburg on Monday night. He had just returned home on the steamer Oclemena, and on reaching his house was seized with a sudden attack of faintness and suffocation. He died before a physician could reach him. Up to the time of his death he had been in apparently vigorous health.

Among many others interested in lake marine affairs the breakwater contractors are losers by the recent storms. Portions of the uncompleted work was more or less damaged by the great waves rolling in against it, many of the smaller stones being misplaced. As the repairs must be made by submarine workmen the progress is slow, and the expense will be considerable.

The steamer H. E. Runnels, which left this port for the coast, arrived in Philadelphia on Saturday. She was the first of the boats to get to her destination. She was bought by the Manhattan Steamship Co., of New York. Before she will begin service on the Atlantic she will be fitted out at Hillman's shipyard at Philadelphia, to which place it is understood the other ships bought by the Manhattan Steamship Co. will also go to be fitted out.

At the present time the Lehigh Valley Line is 80,000 tons ahead of last year's receipts on package freight. Grain receipts of the Lehigh have also been greatly in excess of last year. As a result the elevators to which its grain is consigned are unable to handle it as rapidly as is desired and in consequence a contract has been made with the association elevators, which include the Eastern, Marine, Frontier and Wheeler, to take care of the overflow. Thus any possibility of vessel detention is removed.

As was to be expected a partial blockade is on at the grain elevators, and there was more tonnage in Buffalo river on Tuesday than was ever congregated here at one time before. A large number of big boats are in the fleet. Fourteen craft are waiting to unload at the city elevator alone, and it is reported that the entire Bessemer fleet will be here soon with Duluth grain, to increase the blockade with their numbers. The steamer Gogebic and consort Biwabik, which were out on Lake Michigan in the storm of November 4, had each 5,000 bushels of wet grain.

The shipping business at Tonawanda is booming, and the lumber shovers are kept busy night and day, something not experienced in some years. Exceptionally large imports of lumber are being made and a number of firms state that it will be impossible for them to have all their lumber brought down before the season of navigation closes. The backwardness of firms in buying any large blocks of lumber during the early part of the season on account of the war scare is the reason of the unparalleled rush during the present month. Along the canal there is also unusual bustle and the clearances of lumber are very numerous. The boats are also taking very large loads. It will be the last trip of the season for the majority of them. Last season the canal closed on December 1, but canal men have been informed that an effort is being made to have the time extended this year to December 15.

This week the propeller John V. Moran passed out of the control of the Union Transit Co., of which Henry C. French, of this city, is general manager, and became the property of the Crosby Transportation Co., of Muskegon, Mich. A virtual sale of the vessel to the Crosby people was made several days ago, but the legal transfer had not been made. The Moran left Buffalo for Manitowoc with a cargo of coal. On her arrival at the Wisconsin port she will take her place on the Manitowoc-Sheboygan-Muskegon-Grand Haven route. She is to succeed the steamer Minnie M. and is to run during the winter. While the transfer of the propeller is an out-and-out sale, the principals to the transaction decline to make the purchase price public. The Moran was built at West Bay City in 1888. She is of 1,035 net tonnage and a wooden boat, which has been a money maker for her owners. It is understood that the Moran will be replaced by a large, new steel steamer, to be built this winter and completed in time to enter the lake trade next season.

SAFETY hollow staybolts, manufactured by the Falls Hollow Staybolt Co., of Cuyahoga Falls, Ohio, for use in marine and stationary boilers, are specified by the largest boiler builders in the eastern states for marine boilers.

CLEVELAND.

*Special Correspondence to The Marine Record.*

The steamer German is receiving a number of new plates at the Ship Owners' dry dock this week.

Col. Jared A. Smith, Corps of Engineers, U. S. A., has returned home after a month's visit to the Atlantic coast.

The schooner George Wesley, coal laden for Sarnia, sprung a leak shortly after leaving the port and had to return to dry dock.

The large steel barge D. Z. Norton, owned by the Wilson Transit Co., has carried 84,987 gross tons of iron ore out of Ashland the present season.

The large steel car ferry steamer built for the Toledo & Ann Arbor Railway Co. by the Globe Iron Works Co. has made a trial trip and will leave for Lake Michigan before the end of the week.

A pleasing coincidence for the persons concerned was the circumstance that on Monday Captains George, Edward and Mark Starkey were all at Sandusky with the boats of which they are masters, the Bermuda, Paisley and Gram-pian respectively. All three captains are brothers.

Col. Jared A. Smith, United States Engineer, received word from Washington, this week, authorizing the expenditure of a sum not to exceed \$20,000 in repairing the damaged breakwater. The colonel stated that the work would be started just as soon as the contract could be let.

Capt. William Gerlach, manager of the line, returned to Cleveland from Grand Haven Monday, where the wrecked schooner Aberdeen is stranded. Capt. Gerlach said that the Aberdeen's outfit is gone, she is "hogged" in two places, her decks are bulged up and her cabins are destroyed. He thinks she will be a constructive total loss.

There is nothing in the story published in several lake papers that the steamer Progress was taken in part payment for the steamer Clarence Black by the Cleveland Ship Building Co. J. C. Wallace, general manager of the shipbuilding company, states that the Progress was sold to Capt. J. G. Keith, of Chicago, before the contract for the Black was closed.

The schooner Mineral State, owned by and in charge of Capt. Daniel Drill, caught fire on Tuesday night while lying at the Cuddy-Mullen coal dock. The blaze was caused by the smokestack over the cook's galley. The mizzenboom was swung over the smokestack and the sail, which was furled on the boom, was ignited by the sparks. The damage done amounted to only about \$50.

The combination of fish dealers has been accomplished and valuable river frontage secured on which ice and storage houses will be erected. The syndicate will trade under the name of the A. Booth Packing Co., and as prominent dealers from Puget Sound to the eastern seaboard are in the syndicate the company will represent one of the most extensive fish trading organizations in the world, not only at Cleveland, but at all other prominent lake ports adequate facilities and convenience will be furnished for handling the local catch of fish.

The freight market is fairly active again and quite a little chartering is being done. The coal rate from Buffalo to the head of Lake Superior was advanced to 40 cents on Wednesday, but no change was made here, as coal is coming forward very slowly on account of the scarcity of cars. The ore freight situation is unchanged. The Escanaba rate holds steady at 65 cents, and on a few cargoes from the head of Lake Superior 95 cents is being paid. On wheat from Fort William to Buffalo 2 3/4 cents was paid, and there is a better demand for grain carriers at Duluth.

In the gale on Thursday night last the whaleback barge No. 104 dragged her anchors and acted as a battering ram on the west end of the breakwater. She made the beach all right, opened quite a gap and then retreated, but no one has yet found out where she is in ambush. Several expeditions have been sent out to discover the hull of the two thousand ton iron boat that is known to have foundered in from five to six fathoms, but as yet she has not been located. It has been suggested that she battered herself to pieces and can now only be picked up with grappling hooks.

Vesselmen do not stint in their praise of the marine mail service at Detroit. Night and day the little mail steamer is darting hither and thither on the river. In fair weather and foul the carrier who delivers the mail throws off his line from the yacht and holds his frail row boat in the path of the great steel freighters until the moment arrives to heave his line. Then while his boat is dashing through the waves at the side of the onrushing steamer he delivers his mail. From the moment the carrier leaves the yacht he is in extreme peril, for the slipping of an oar might mean his loss, but every boat that passes Detroit has its mail delivered.

A large shipper and manager of a dock very pertinently states that the work of keeping the harbor clear is too important a matter to be interfered with by some petty local jealousy. "We are losing business every day because the work of keeping the river in good condition is not pushed," said he. "The government and city officials should get together, settle their differences and let the work of dredging the channel go on. The delay is due to the refusal of the city to ask for a permit." Colonel Smith is in charge of the conservancy and improvement for rivers and harbors and he is only doing his duty—any less, he might be called down.

CHICAGO.

*Special Correspondence to The Marine Record.*

Grain freights weakened on Monday, 2 cents only being paid for corn to Buffalo.

At the Chicago Ship Building Co.'s shipyard the steamers Gladstone and Phenix were in dock for bottom calking.

J. J. Rardon & Co. chartered the steamers Phenix and Amazon to Owen Sound, and the Bulgaria to Midland for corn at 1 7/8 cents, the steamer Gladstone for wheat to Buffalo at 2 3/4 cents, steamer Britanic for Barley to Buffalo at 2 cents, steamer Mecosta from Milwaukee to Buffalo for oats at 1 3/4 cents.

At the shipyard here the schooner Isabella J. Boyce is in dock for some new bulwarks aft and a new pintel, the schooner A. Mosher is in for bottom calking, the tug G. A. Tomlinson was in and had her wheel re-fastened, the steamer Lawrence was in and had a leak stopped, the tug M. Shields was in and received some new garboard and plank, recalking all over and ironing.

Leo Steele, aged 50 years, fell into the amidships hold from the promenade deck of the steamer J. Fiske, Jr., at the L. M. & L. S. Transportation Co.'s dock early Sunday morning. He died in the ambulance in which he was being taken to the county hospital. The deceased was second mate on the Fiske. He had sailed on the lakes many years, having come from Prince Edward Island when a young man. He was mate on the F. & P. M. line of steamers several years, and was captain of the F. & P. M. No. 2 two years ago and is well known at Lake Michigan ports.

The owners of the barge Iron Cliff abandoned her to the underwriters, who have employed the Dunham Towing & Wrecking Co. to raise her. The company's tugs J. C. Evans and O. B. Green, with a 14-inch Worthington pump, a rotatory 12-inch pump, and a centrifugal 10-inch pump have succeeded in raising her by the stern, the barge having been loaded with fine salt aft which could be pumped out, but forward she is loaded with rock salt which cannot be acted upon by the pumps. It is, however, anticipated that the wrecked barge will be floated and brought in behind the breakwater within a few hours.

The schooner S. Thal, Capt. August L. Schuenemann, with a load of Christmas trees from Sturgeon Bay, bound for Chicago, went on the beach at Glenco during the heavy gale last Thursday and went to pieces. The captain and crew a 1 perished. In addition to the captain and crew there was on board E. Turner Davis, aged 26 years, a friend of the captains, and who with his wife resided at his house; "Old John," an old German sailor who had worked for the captain and his brother Herman for several years, and had been ship keeper on the old schooner Mowry whilst she was laying near Clark street bridge and until she was recently removed, and three men who joined the schooner at Sturgeon Bay. Capt. Schuenemann was 46 years old and had sailed many years. He formerly owned the schooner Seaman. He leaves a widow and two children—Elma, aged 11 years, and Arthur, aged 7 years. The schooner which the late captain purchased in Milwaukee about seven weeks ago was of 55 gross tons and was built in 1867 at Oshkosh, Wis.

The barge Iron Cliff, which arrived here last Thursday in tow of the steamer Iron Duke, during the heavy gale sank about 1000 feet outside the south breakwater, just north of Van Buren street gap. The Iron Cliff was loaded with salt for South Chicago, but was brought in here for shelter from the storm. The Iron Duke rounded to with her behind the north breakwater, and the I. T. Line's tugs Rita McDonald and Tomlinson took her in tow and the tow lines parted. More lines were taken but none were strong enough to hold against the heavy gale and sea. The barge's anchors were let go but she dragged them until she stranded. Capt. Frank Fountain and the life-saving crew assisted in rescuing the captain and crew from the storm-tossed sinking vessel. The Iron Cliff was owned by the Detroit Transportation Co., and was loaded with 1,938 tons of salt, valued at \$7,000, consigned to Joys, Morton & Co. at South Chicago. She was built at Detroit in 1881, and was rated A 1 1/2, and was insured with the McCurdy-Prime syndicate for \$30,000.

DETROIT.

*Special Correspondence to The Marine Record.*

The steamer John Duncan has been seized by the United States marshal.

The light-house tender Marigold is picking up the buoys in the east end of the Straits of Mackinac.

The range light and tower at the mouth of the St. Clair river were blown down during the last storm.

The schooner Wenona has been stripped and abandoned. The schooner Austin has also been abandoned by the wreckers at Ludington.

Capt. John Cornwall and others have purchased the steamer Ontario from the Beatty Line, and will convert her into a lumber carrier.

The Detroit Lubricator Co. recently shipped lubricator No. 400,000 to South Africa, while lubricator No. 399,000, made about a week earlier, went to Java.

The United States Court of Appeals has handed down an opinion in a celebrated lake collision case, tried in the United States District Court of Detroit before Judge Hammond, in which his decision, holding the Ohio equally to blame with the Mather and Siberia for the sinking of the Ohio in the Soo river, is reversed. Judge Hammond is ordered to enter a decree against the Mather and Siberia for the damage loss



on the Ohio. This collision resulted from the attempt of the masters to pass too closely to one another in the river. That the Ohio was struck by one of them, and the other was held as culpable, as she did not give sufficient way to the others to pass. The Mather has since burned and become a total loss.

Among several other vessels left above the St Lawrence rapids by the Atlantic Transportation Co., is the Shawnee, owned by Capt. J. W. Westcott, of this city. It is probable the delayed vessels will be piloted down next May.

About 400 men are now employed on the various proposed routes of a deep waterways connection between the lakes and the ocean. All the field work will be completed in three weeks, and one year will be spent in going over the figures and making estimates of the cost.

Judge Swan has made an order for the sale of the schooner Cheney Ames, now lying at Port Huron. The order was made at the instance of the Thompson Towing and Wrecking Association, which claims \$1,000 for wreckage and salvage charges. The sale is to be held in Port Huron.

The Penberthy Injector Co., Detroit, Mich., have secured through the courts an injunction to restrain the Lee-Penberthy Manufacturing Co. from using the name "Penberthy" on injectors of their manufacture. The Penberthy Injector Co. have for years used this name in connection with their injectors, have extensively advertised it and claim it was of great value.

Jesse H. Farwell and Thomas Adams, after many years of partnership in the vessel business, have practically dissolved. The Ecorse Transportation Co., of which Mr. Farwell is the principal stockholder, has sold its half interest in the steamer Tom Adams to Mr. Adams for \$36,000. The Ecorse Transportation Co. has purchased from Mr. Adams his five-eighths in the steamer Jesse H. Farwell.

A. M. Carpenter and Henry McMoran, both of Port Huron, or in case the latter declines, Theodore R. Wright, have been selected by Judge Swan, of Detroit, to appraise the propeller Garden City, in the suit brought against her by Martha Davis and others. The complainants were owners of the old tow barge Wenona, which was cast adrift by the Garden City in a gale on Lake Superior and went ashore and was wrecked near Houghton. They claim the steamer was well able to take care of the barge until the nearest shelter could be reached. The Wenona in her day—but that day was twenty or thirty years ago—was one of the fine passenger propellers out of Detroit. Another was the Mineral Rock, another the Boscobel, another the Pacific, another the Coburn, another the Toledo, and so the list might be swelled to a score. All have passed out of existence in the Wenona fashion. They are good examples of the mutations of time, and many men and women living in Detroit to-day will look back and ponder over the times when these steamers carried them up and down the lakes.

#### FLOTSAM, JETSAM AND LAGAN.

The schooner Amboy will go into winter quarters at Milwaukee.

Iron ore shipments from Ashland up to last Monday exceeded 2,350,000 tons, a larger amount than for any previous season.

The wrecked schooner Aberdeen is at Milwaukee. A survey will be held on her as soon as she discharges her grain cargo.

Consular reports state that the Canadian Pacific Railway is to place a line of steamships on the Pacific between Vancouver and Vladivostok.

The Bessemer schooner Roebing made a new grain carrying record out of Duluth this week. She loaded the equivalent of 252,000 bushels of wheat.

James Pryor & Son have purchased a tract on Portage Lake and will build mills and a yard for constructing dredges. A small dry dock will be added.

James Pryor & Son have purchased a tract on Portage Lake and will build saw and jig mills and a yard for constructing dredges. A small dry dock will be added.

The large tug on the stocks at Benton Harbor for the Milwaukee Tugboat line will be launched this week. She will be named William H. Meyer, after the manager of the line.

Manistee contractors have about closed a contract to raise the charred hull of the steamer Puritan, which burned at one of the docks there three years ago, and remove the boiler and engine.

Capt. Ferguson, of the steamer Pauly, reports having struck a sunken object twelve miles west, half north from Cleveland. The Pauly bounded over the obstruction which apparently gave way under the boat. It was located several miles from shore.

The fleet of licensed steam craft now engaged in the trade of Puget Sound numbers 325 vessels. Of the 90 boats added during the past year, only 31 were built for the Alaskan trade. The trade with Japan, China, Africa and Australia is steadily growing and will continue to grow indefinitely.

Nothing in the way of a calendar could be more appropriate this year or more popular than that issued by Armour & Co., of Chicago. It consists of six 10x12 sheets bound together with a dainty red, white and blue ribbon. Each sheet has the calendar for two months and a most artistic picture of soldier or sailor, in hospital or in love, always something most attractive reproduced from paintings by

Francis Day, a celebrated artist, whose work was expressly for this calendar. Another feature is that Armour & Co. are so famous there is no necessity for further announcement than the modest one, "Armour & Co.'s Army and Navy Calendar," and, therefore, its beauty is not marred by advertisements.

Capt. George P. McKay received a letter from Capt. Dunn, commander of the Canadian cruiser Petrel, on Wednesday, saying that it is his intention to remove the Pelee gas buoys on the 19th inst. or as soon after as the weather will permit, and replace them with spar buoys.

The American Wrecking and Salvage Co. has retained the services of the steamer H. A. Root for another season. The work of the present year consisted of dynamiting the hull of the Pewabic so as to uncover the copper cargo, and it is expected that the greater portion of it will be recovered next season.

Last week's Duluth wheat receipts constitute a record mark. They amounted to 3,713,072 bushels and this amount stands for the highest in one week received in the Duluth market. The shipments were 2,854,623 bushels. The stocks last Saturday night were 2,198,651 bushels. The increase of stocks for the week amounted to 561,318 bushels.

The Cleveland Rolling Mill Co. handles about 70,000 tons of ore a month, and it is getting so that it is almost impossible for vessels to reach that dock without damage or delay. Temporary repairs will be made on the Devereux and she will be kept running. Permanent repairs will be made as soon as she lays up. The Narragansett was not damaged.

Harbor Master McNelly, of Toledo, will ask the city council to widen the channel and deepen the water in Swan Creek from the Perry street bridge to the St. Clair street bridge. The channel is not sufficiently wide at present, and when the water is a little low vessels ground and cause much annoyance to vessel men and the loss of valuable time.

No trace has yet been found of the crew of the lost schooner S. Thal, although the beach was carefully patrolled near the place where she went ashore. It is now known that five men were lost: Capt. August Schuene-mann, owner of the Thal, Chicago; Turner Day, mate, Chicago, and John Davis, sailor. The other two are unknown.

The Falmouth Chamber of Commerce has resolved to draw the attention of the board of trade to the danger of allowing electric light to be used as a masthead light. The matter had been prominently brought forward in connection with the wreck of the Mohegan, as it is declared that, owing to the electric lights being extinguished, the lifeboats were unable to find the wreck.

The W. & A. Fletcher Co., of Hoboken, N. J., will build a 190-foot sidewheel steamer for the Old Dominion S. S. Co., to take the place of the Northampton, recently burned. The new boat will be sent to Norfolk when completed. They are also building the engine and boiler for the new steamer, (130 feet long, 42 feet across the guards and 7 feet deep) under construction by Wm. H. Baldwin, of New Baltimore, N. Y., for the Albany and Troy Steamboat Co.

The storm of last week deposited so much sand in the harbor channel at Racine that it is unsafe for vessels drawing twelve feet to enter. The steamer Louisiana, drawing 13 feet, 3 inches, with a cargo of coal, grounded in the channel east of the Goodrich dock and now blocks the passage up the river. The Goodrich lines are compelled to land freight and passengers at the end of the south piers, while the Huron liners cannot reach their dock at all.

The steamer H. E. Runnels, which went from Buffalo to the coast, arrived in Philadelphia last Saturday. She was the first of the boats to get to the coast. She was bought by the Manhattan Steamship Company, of New York, for use in the coast trade. Before she will begin service on the Atlantic she will be fitted out at Hilman's shipyard at Philadelphia, to which place it is understood the other ships bought by the Manhattan Steamship Company will go to be fitted out.

According to the Army and Navy Journal the war paint taken on by our naval vessels when the war broke out with Spain will probably be made the permanent color, except in special cases of ships which it may be advisable to paint white. The present color is found well adapted to the naval service. White is regarded as most desirable for ships serving in the tropics, but the ease with which it is blemished makes it expensive to maintain the ships always in white coats.

Judge Seaman of Milwaukee in the United States District Court recently rendered a decision in the case of Henry Rahr's Sons against the owners of the steamer Birkhead. The case was brought over a year ago to recover damages sustained by the plaintiffs for the sinking of the tug Agnes C. at Barkhausen & Hathaway's dock in Green Bay by the steamer Birkhead. The claim was for \$600. Judge Seaman holds that the damage should be paid, but has left the amount to be decided by Edward Kurtz, court commissioner at Milwaukee.

The wreck of the whaleback barge 104 was located on Wednesday by diver Walter Metcalf. She is about 300 feet from the breakwater, almost straight out from the point where she struck and pounded for four or five hours. Mr. Metcalf said that she lies in a bed of quicksand, and that her deck forward is on a level with the bottom of the lake, while her deck aft is about six feet above the bottom. The diver did not make a thorough examination of the barge, but he says that she is battered up pretty well. He will go down again when the weather is favorable, and examine the wreck. The wreck is in about thirty feet of water. Capt. J. H. Killaran of Buffalo, representing John-

son & Higgins, the underwriters, general agents, is here looking after the work. It will not be decided what will be done with the whaleback until after diver Metcalf makes his full and complete report.

Contractor Jex, who is to remove the wreck of the steamer City of Duluth from the entrance to St. Joseph harbor, will receive \$1,500 for the work. The next lowest bid to that of Jex was \$5,000.

On Tuesday night the schooner Narragansett was permitted to tie up in the starboard draw of the Seneca street bridge. It is customary for vessels bound for docks in the upper part of the river to use that draw in order to make the turn at collision bend. Wednesday morning the steamer J. H. Devereux, bound for the upper furnace dock with a cargo of ore, was forced to take the port draw and in straightening up collided with the Narragansett, taking the entire Texas off the Devereux and making a wreck of her upper works forward.

The failure of the Turney & Jones Coal Company, which was announced in the dispatches yesterday morning, created considerable surprise in local marine circles in this city. The company has shipped out of this port thousands of tons of coal during the season now drawing to a close, the appointment of a receiver to look after the business of the company will in no way interfere with operations. Affairs will go on the same as heretofore, the receiver attending to all orders received for coal and the docks taking care of whatever coal is consigned to upper lake ports.

A Portland, Ore., correspondent of Fairplay, London, has the following to say: In your issue of September 29th, one of our correspondents asks: "What is a bald-headed schooner? On this coast a fore-and-aft schooner, without topmasts is known as a bald-headed schooner. There are a number of them, some as large as 500 to 900 tons register, and having three, four or five masts. I note also that in one of your preceding numbers your New York correspondent claims that there is but one five-masted schooner sailing, the Governor Ames, besides one now building on the Atlantic coast. This is incorrect, as there are two on this coast, the Louis, 820 tons register (bald-headed), and the Inca, 980 tons register (with top masts).

The Northern Pacific Steamship Co., will, in a certain event, place under American register the six British steamships which it operates to China and Japan. These include the transport Arizona, which the company sold to the government in July, when available steamers for transport service were scarce. Vice-President Lamont, of the Northern Pacific Railroad, and others interested, secured the passage of a law by Congress that permitted the company to place its trans-Pacific liners under the American flag, this privilege being desired in view of the prospective heavy traffic between the United States, Hawaii and the Philippine Islands. The company only awaits the decision as to whether the United States will keep the Philippines to change the registry. Should the Philippines be returned to Spain, the British registry would be returned. The steamers concerned are the Tacoma, Olympia, Victoria, Arizona, Columbia and Argyle.

#### DETROIT MARINE POST OFFICE.

LETTERS REMAINING ADVERTISED IN DETROIT, MICH., POST OFFICE NOVEMBER 17, 1898.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Cantwell Geo., Str. Katahdin	McDonald Geo. A., 2
Corry Wm.	McIntyre John, Str. H. A.
Colry El.	Tuttle
Dettman Henry	McGraw R. E., Str. Mariska
Dingman Geo. A., 2	Newton G. M.
Dusch Fred	Newell H. C.
Eldred E. P., Str. Vega	Newberry Miss Ida, Sch. 3
Eldred Paul, 2, Str. Vega	Brothers
Forrest Neil, Str. Senator	Pratt Eddie
Giddings J. M., 2	Patterson C. E., Str. Masaba
Hollywood Chas.	Pearsall Frank
Hill E. H.	Quinlan Jas., Str. Ionia
Jordan Wm., Str. Appomattox	Robertson A., 2, Str. Chisholm
King Gilbert, Str. H. A. Tuttle	Rankin Frank, Sch. Algeria
Keig R. S., Str. G. N. Orr	Rechord S.
Lindgrum Andrew, Sch. Adriatic	Sakin John
Lyons Jules	Saune J. B.
Moore S. D., Str. Hiawatha	Thompson Joseph
Maxwell Robt., Str. Choctaw	Wheeler Sam, Str. G. N. Orr
Miller Wm., Str. Harper	Wilson George
McMillan John T., Str. Hackett	Wiel Olaf L.
	Wilson Wm. A., Str. Aztec

COMMODORE MELVILLE has it in contemplation to experiment with some of the many substitutes for the reciprocating engine used for the blowing systems on board the smaller craft of the navy. On the torpedo boats and destroyers it is impracticable to employ electricity, and the engines ordinarily applied are found to give so much trouble that a substitute is being looked for. So far the attention of the bureau has been directed to the many rotary engines in use, but no decision has yet been reached.



## SOME LAKE HISTORY

In Steam Navigation (William Briggs, Toronto,) James Croil gives an interesting history of the inception and progress of commerce on the Great Lakes. One of the earliest vessels on the lakes, writes Mr. Croil, was a schooner built near where Kingston, Ont., now stands, by the enterprising French adventurer La Salle, who had been appointed governor of Fort Frontenac, and had a roving commission to explore the western wilds of North America. Accompanied by the famous Recollet father, Hennepin, and some thirty others, La Salle set sail on the 10th of November, 1678, for the head of Lake Ontario. Finding his further passage barred by the falls of Niagara, he wintered in that neighborhood and had another vessel built at Cayuga creek, a few miles above the falls. This vessel, which he named the Griffin, of about sixty tons burden, was launched in May, 1679, and was probably the first to navigate the upper lakes. On the 7th of August, the Griffin, equipped with seven guns and a diversity of small arms and freighted with a load of goods, sailed away for Detroit and parts unknown. The Detroit river was reached in a few days, and Green Bay some time in September, when she was loaded with furs and dispatched on her return voyage to Niagara, which, however, she never reached, the vessel and cargo having been totally lost on the way.

For many years after the loss of the Griffin the navigation of the lakes seems to have been confined to bateaux, and up to 1756 the construction and use of sailing vessels was largely, if not entirely, confined to Lake Ontario. The first American vessel built on Lake Erie was the schooner Washington, built near Erie, Pa., in 1797. After plying on Lake Erie one season, she was sold to a Canadian and carried on wheels around the falls to Lake Ontario, where she sailed from Queenston to Kingston in 1798 as a British vessel, under the name of Lady Washington. In 1816 the whole sailing tonnage on Lake Erie was only 2,067 tons. In 1818 the fleet on Lake Ontario numbered about sixty vessels.

The first steamer on Lake Erie was the Walk-in-the-Water, built at Black Rock, near Buffalo, by one Noah Brown, and launched May 28, 1818. She was schooner-rigged, 135 feet in length, 32 feet beam and 13 feet 3 in. deep; her tonnage was 383<sup>9</sup>/<sub>8</sub> tons. Her machinery was brought from Albany, a distance of 300 miles, in wagons drawn by five or eight horses each. She left Black Rock on her first voyage August 25, and reached Detroit, 290 miles, in 44 hours, 10 minutes. While she could navigate down stream her power was not sufficient to make headway against the strong current of the Niagara river. Resort was therefore made to what was known in the early days as the "horned breeze." The Walk-in-the-Water was regularly towed up the Niagara river by a number of yokes of oxen, but once above the swift current she went very well.

She made regular trips between Black Rock and Detroit, occasionally going as far as Mackinac and Green Bay, until November, 1821, when she was driven ashore near Buffalo in a gale of wind and became a total wreck. Her engines, however, were recovered and put in a new boat named the Superior, in 1822. Soon after this the first high-pressure steamer on the lakes was built at Buffalo. She was named the Pioneer. In 1841 the first lake propeller was launched at Oswego. This was the Vandalia, of 160 tons, said to be the first freight boat in America to make use of Ericsson's screw propeller. She made her first trip in November, 1841, and proved entirely successful. In the spring of 1842 she passed through the Welland canal, and was visited by large numbers of people in Buffalo, who were curious to see this new departure in steam navigation, and the result was that two new propellers were built in that year at Buffalo, the Sampson and the Hercules.

The year 1836 marked an important era in the navigation of the Great Lakes, for in that year the first cargo of grain from Lake Michigan arrived at Buffalo, brought by the brig John Kenzie from Grand river. It consisted of 3,000 bushels of wheat. Previous to that date the commerce of the lakes had been all westward, and, curiously enough, the cargoes carried west, consisted for the most part of flour, grain and other supplies for the new western settlements. In 1840 a regular movement of grain from west to east had been established. In the early years of the grain trade the loading and unloading of vessels was a very slow and irksome business. As long as two or three days might be required to unload a cargo of 5,000 bushels. In the winter of 1842-43 the first grain elevator was built in Buffalo, and a new system of handling grain introduced, which was to prove of incalculable benefit to the trade. The schooner Philadelphia, of 123 tons, was the first to be unloaded by the elevator.

During the last quarter of a century the commerce of the

Great Lakes—the United States commerce, especially—has grown with a rapidity almost exceeding belief. It has become enormous! At the present time it is stated on competent authority that the steam tonnage of these inland seas largely exceeds the combined tonnage of this character in all other parts of the United States put together. Not to speak of the vast amount of shipping employed in the iron, the coal, the lumber trade, the Lake Superior grain and flour shipments for 1896 were 121,750,000 bushels. The Lake Michigan grain and flour shipments for the same year were 273,820,000 bushels, together making 395,570,000 bushels of grain and flour shipped in one year from these two quarters. It is difficult to realize the magnitude of such a statement.

Up to a comparatively recent date the bulk of the lake commerce was done by sailing vessels. Every town of any importance had its little fleet of schooners. As time went on, the vessels increased in size, and eventually a very fine class of three-masted schooners, with some brigs, barquentines, and even full-rigged barques, were employed in the carrying trade. One of the largest of these was the barque Utica, of 550 tons, which sailed on the Buffalo and Chicago route in the 40's. A few of these schooners may still be met with, but they are rapidly being supplanted by iron and steel steamships of great size, such as the Maryland, the Owego, the E. C. Pope, and the Manitou, representatives of fleets of first-class steamships, ranging from 300 to 350 feet in length, over 1,900 tons register, with triple-expansion engines, a speed of fourteen to sixteen miles an hour, and a carrying capacity of 120,000 to 125,000 bushels of grain. These, and many others like them, were accounted "queens" a few years ago; they are fine ships still, but there are others much larger and finer now.

The James Watt, the first of the Rockefeller fleet is 426 feet long, 48 feet beam and 29 feet deep. She cost \$260,000, and will carry from 4,000 to 6,000 tons of ore, according as she is trimmed to draw fourteen or eighteen feet of water. The Empire City, owned by the Zenith Transportation Company, is of the same dimensions, but one foot less in depth. As to the vessels at present employed in the trade, it is safe to say that they are to be regarded as the precursors of a still larger class of cargo and passenger steamers that will navigate these waters when the contemplated twenty-one-foot channel shall have been established from Lake Superior to Buffalo. At present there is a navigable channel of seventeen and one-half feet all the way. Many of the large steamers take a number of barges in tow, and in this way enormous quantities of grain are sometimes moved by a single shipment. The Appomattox, for example, with three consorts in tow, recently left Duluth with a combined cargo of 482,000 bushels, or 14,460 tons of wheat. Assuming the average yield of that cereal to be twenty bushels to the acre, this single shipment represented the product of 24,100 acres.

For many years two causes prevented the building of vessels of large dimensions for lake navigation. One of these was the insufficient size of the lock at Sault Ste. Marie, and the other was the shallowness of the water on the St. Clair flats and at other points. The former difficulty disappeared in 1881 when the first of the large locks was opened at the Sault channel; the lake marine, has already done much to develop the resources of the northwest, especially the mineral resources, which would otherwise have lain comparatively dormant. The United States has expended some \$12,000,000 in widening and deepening channels, which has already been more than repaid by the rapid development of commerce. The largest items in the lake traffic is the transportation of iron—the richest ores are now being mined along a line of coast 1,000 miles, dotted with manufacturing towns.

It helps one to realize the immensity of the lake traffic to learn that the number of vessels that cleared from the district of Chicago in 1893 was 8,789, with a gross tonnage of 5,499,740. The tonnage passing down the Detroit river from Lakes Superior, Michigan and Huron during the seven or eight months of navigation is, by official statements, greater than the entire foreign and coastwise trade of London and Liverpool combined in twelve months. It is estimated by competent experts to be three times greater than the foreign trade of the port of New York, and to exceed the aggregate foreign trade of all the seaports of the United States by 10,000,000 tons.

The number of sailing vessels built on the Great Lakes in 1896 was nineteen; in that year there were built seventy-five steamers, aggregating 75,743 tons register, and of these thirty-five were built of steel, and a combined tonnage of 63,589 tons. The principal ship building yards are at Buffalo, Cleveland, Detroit, Bay City, Milwaukee, Chicago and Superior. At most of these points there are plants for the

construction of iron and steel vessels. It is said that Cleveland is the largest shipbuilding port and also the largest iron ore market in the United States.

The transportation of iron ore forms a large element in the commerce of Lake Superior. Not only is the ore found in great abundance in that region, but it is the best in quality and the most in demand of any in the United States. Over 100,000,000 tons of this ore have been mined in the lake region within the last forty years. Owing to its great bulk and weight it is nearly all carried by water; the estimated capital engaged in mining and transporting the ore to the 120 furnaces in Ohio, Pennsylvania, New York and Illinois, is about \$234,000,000. But for the number and size of the steamers thus employed, and the facilities now used for loading and discharging them, the trade could not exist. The largest vessels in the iron ore trade are regularly loaded in three or four hours; 2,500 tons of ore have been loaded into a vessel of that capacity in an hour and three-quarters.

## EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the Eastern freight market for this week as follows:

Shipping orders have unfortunately not kept pace with freer offering of tonnage, and thus at the moment the number of boats on the market is in excess of the wants of charterers for grain and cotton. Although occasional fixtures of prompt, suitable boats might still be had at former figures, freights for later periods have undergone a decided decline, as our subjoined list of fixtures shows, and the demand for tonnage has very visibly diminished. As the disturbed state of European politics is doubtless, to a greater or lesser degree, responsible for the present state of comparative apathy, it is all the more earnestly to be hoped that the political skies may soon clear; in default, tonnage will accumulate to such an extent as to render a serious break, not alone probable, but practically inevitable. The comparatively large list of time boats comprises trades made some while ago and only now reported; the high figures attached to some of them are not now obtainable any more.

Our market for sailing vessels is very quiet and devoid of any feature of particular interest. The demand is exceedingly light, but tonnage, on the other hand, is not abundant. No further fixtures for grain by sail have taken place, as steamer rates show a decline, and charters for petroleum in barrels and for lumber are but very sparsely represented in our subjoined list of engagements. In case oil to the East there is absolutely nothing doing, the Standard Oil Company not being anxious to secure tonnage, whilst owners are disinclined to press their ships on the market at our present quotations, which have therefore to be considered nominal.

## VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo .....	1,858,000	1,393,000	1,103,000	201,000	1,163,000
Chicago .....	2,050,000	9,878,000	821,000	117,000	267,000
Detroit .....	111,000	285,000	6,000	11,000	129,000
Duluth and Superior .....	2,199,000	1,102,000	52,000	40,000	252,000
Milwaukee .....	16,000	.....	.....	1,000	54,000
Montreal .....	109,000	289,000	357,000	34,000	15,000
Oswego .....	46,000	133,000	.....	.....	117,000
Toledo .....	289,000	182,000	72,000	17,000	.....
Toronto .....	38,000	.....	3,000	.....	37,000
On Canal .....	75,000	206,000	60,000	.....	562,000
Grand Total.....	19,194,000	23,529,000	5,499,000	1,017,000	3,341,000
Corresponding Date, 1897 .....	31,973,000	43,439,000	14,285,000	3,797,000	4,324,000
Increase .....	2,194,000	.....	.....	47,000	149,000
Decrease .....	.....	268,000	477,000	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE Canadian department of public works has completed the dredging of the cut through Barre a Boulard, Richelieu Rapids, in the St. Lawrence between Quebec and Montreal to a width of 500 feet and a least depth of 27½ feet. Another improvement has given a channel with a least width of 500 feet between Cap Madeline upper range lights and Cap Madeline day beacons. The channel opposite Cap Madeline village has been widened by the removal of the north point of the spit opposite Cap Madeline church. The Montreal harbor commissioners have gradually widened the ship channel between Victoria pier and the Lachine canal entrance, until it is now 500 feet clear width at the Island wharf, 800 feet opposite the Dominion line berths and 675 feet at the outermost projecting point of Victoria pier.



## CORRESPONDENCE.

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

## DECK FITTINGS AND EQUIPMENT.

NEW YORK, Nov. 14, 1898.

To the Editor of the Marine Record:

DEAR SIR:—In reply to the article "Safety at Sea," in the Marine Journal of November 12th, I would remark, no doubt the ignorance of the average public about shipping and fittings of a steamship in particular is dense, and many modern travelers are more interested in either cabin comforts and location at the table than in familiarizing themselves with such detachable deck fittings that could be hurriedly employed at a moment of acute peril. But there are many experienced travelers, who are more interested in the steamers having the greatest facilities for controlling, saving and rescuing excited passengers, and although the passengers know little or nothing about ship fittings and devices employed for their preservation, have sufficient discernment to note if discipline is maintained, and the safety appliances are effective to the object required. A line of steamers that acquires the reputation of devoting the greatest attention to the safety of passengers will certainly secure the patronage of that class of travelers who are more interested in safe arrival at port than in the food served during the interval of departure and arrival.

I would suggest that possibly many of the ships' decorations could be dispensed with, and the money therefore employed to advantage in additional or more effective measures of safety. Very truly yours, JOHN L. LAY.

## STEERING AND SAILING RULES.

The rules enacted by Congress for preventing collisions upon the Great Lakes and their connecting and tributary waters as far east as Montreal are not the international rules, but, to some extent, only an imitation of them. The international rules for steamers crossing provide that the red light seen of another vessel shall always have the right of way, whereas the vessel seeing it shall keep out of the way. The same is expressed in the lake rules 18, 20, and 21. But rules 23, and 26 alter the former so as to be of no effect, because of two steamers crossing all depends, according to rule 26, on the agreement of the two vessels which one is to cross first and has to keep her course. By rule 26 the assent of the other vessel is always required. And rule 23 provides: "In all weathers every steam vessel under way, in taking any course authorized or required by those rules shall indicate that course by the following signals on her whistle \* \* \* But the giving or answering signals by a vessel required to keep her course shall not vary the duties and obligations of the respective vessels." This last sentence undoubtedly means there are other duties and obligations for the vessel required to keep her course, as for instance, the assent of the other vessel by rule 26; and thus the international rules have been made illusory.

That such is really the case may more clearly be seen from pilot rule II which reads: "When steamers are approaching each other in an oblique direction, \* \* \* so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way of the other, which latter vessel shall keep her course and speed. The steam vessel having the other on her starboard side indicates by one blast of her whistle her intention to direct her course to starboard, and two blasts if directing her course to port, to which the other shall promptly respond, but the giving and answering signals by a vessel required to keep her course shall not vary the duties and obligations of the respective vessels." According to the rule the vessel required to keep her course by the first half of the rule is entirely at the mercy of the other vessel by the last half of the rule. The first half constitutes the international rule, the last half the old lake or American rule. By the former only one way of crossing is permitted; by the latter two ways are open. It required some nerve to embody two opposite rules into a single one.

That the international rules are entirely thrown overboard becomes still more visible in the seventh diagram of the pilot rules where the vessel which, according to the international rules, has the right of way, is compelled to let the other vessel cross first and go astern of her.

Whoever made rule 26 and the closing sentence of rule 23 outwitted all the supporters of the international steering and sailing rules. For the practical navigator, of course, it is not agreeable to have two opposite rules embodied into

one, but it cannot be helped at present. Nowadays everything has to be done cunningly and clandestinely, so as to deceive even the elect, if it were possible.

JOHN MAURICE,

Civil Engineer and Nautical Expert.

Chicago, Nov. 1, 1898.

## A TUG LINE CHANGED HANDS.

The Sheldon Tug Company, which has operated at Houghton, Mich., for twenty-five years past, has sold its tugs and business to Joseph Croze, thus giving him future control of the towing business of Portage Lake.

## DEATH OF DAVID KAHNWEILER.

We regret to have to announce the death of D. Kahnweiler, founder of the house of Kahnweiler, 437 Pearl St., New York, the largest life preserver and life raft works in the United States.

Mr. Kahnweiler passed away at his home, 52 East 126th St., New York, at midnight Saturday. The funeral occurred Tuesday morning, and was attended by a large number of representative marine men. Deceased was one of nature's noblemen and was beloved by all with whom he had business or social relations. He leaves several grown-up sons, two of them (Oscar and Louis) have been associated with their father in business for over ten years, and will carry on the establishment which their honored sire so successfully founded and made prosperous.

## NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

TREASURY DEPARTMENT,  
OFFICE OF THE LIGHT-HOUSE BOARD,  
WASHINGTON, D. C., Nov. 12, 1898.

CITY OF DULUTH WRECK LIGHT.—Notice is hereby given that the work of removing the wreck of the steamer City of Duluth, sunken in Lake Michigan on the northerly side of the entrance to the harbor of St. Joseph, has been placed under contract and the contractor is now on hand with his plant for carrying on the operations.

The fixed white lens-lantern light maintained by the Light-House Establishment, on a cluster of piles about 100 feet to the southward of the bow of the wreck, will be discontinued on or about November 15, 1898, but the contractor is required to maintain a suitable light to indicate the position of the wreck and his plant used in the work of removal.

By order of the Light-House Board:

FRANCIS J. HIGGINSON,  
Commodore U. S. Navy, Chairman.

## FIGURES ON IMMIGRATION.

Commissioner General T. V. Powderly, of the immigration bureau, in his annual report to the Secretary of the Treasury, gives the total number of immigrants who arrived in the United States in the last fiscal year as 229,299, an increase, as compared with the fiscal year of 1897, of 1,533. Of the whole number 135,775 were male and 73,724 females, 10,737 came into the United States through Canada. During the year 3,030 were debarred. The total amount of money shown by immigrants during the year was \$3,872,077, but the actual amount brought over was probably greatly in excess of this amount. Of the whole number of arrivals 58,653 came from Italy, 27,221 from Russia proper; 25,128 from Ireland, 17,111 from Germany, 16,659 from Hungary, 12,420 from Austria-Hungary, and 12,398 from Sweden, and 9,487 came from England.

The total arrivals of male immigrants during the present fiscal year are slightly in excess of those for the year next before it, and represent a more desirable class.

## CHANGE OF NAME.

The Commission of Navigation, in a letter dated November 7, gives the Detroit, Grand Rapids & Western Railway Co., the new owner of the car ferry steamer Shenango No. 2, permission to change the name of that craft to Muskegon, all the requirements of the law with reference to such change having been complied with. It is rumored at Muskegon that owing to the rapid increase of business of the route the Detroit, Grand Rapids & Western management contemplate the purchase of another car-ferry steamer to help the Muskegon out. It was noted in the RECORD recently that the Commissioner of Navigation suggested that on a change of name, or where a new name was given to a vessel that it would be preferable to make it one word only. The foregoing change should certainly meet his views in this matter, and apparently it did.

## NOTES.

THE Hancock Inspirator Co., Boston, Mass., has issued a handy catalogue, "98 G," of the Hancock inspirator, of various types and patterns; also of the Hancock ejector, and of the "Loftus" automatic or restarting injector. That company also give notice of suits pending with the Hayden & Derby Manufacturing Co. for infringing their double tube locomotive inspirator and with the Penberthy Injector Co., in an effort to establish the importance and validity of the "ring valve" patent.

JAPAN is not going to be behind in the matter of technical societies. There is a society for naval architects and marine engineers, another for engineers of every department, which was started about nine years ago and now has over two thousand members, and now there is a society of mechanical engineers in Japan, which at the completion of its first year has over one hundred members. The president is Mr. Bunji Mano, M. Inst. Mech. E. (Lond.), a graduate of the Imperial College of Engineering, Tokio, who has for a good many years been professor of mechanical engineering in the Imperial University, Tokio. The council is largely composed of Mr. Mano's fellow students, with the addition of a few younger men who have studied in the University or in America, one of them being a member of the American Society of Mechanical Engineers.

A SUBMARINE electric light of improved light giving properties is reported as being devised by some students employed by the United States government in placing submarine mines off the coast of Maine. It is an arc lamp enclosed in two glass globes—an inner and an outer—the latter hermetically sealed to the metal cylinder containing the feeding mechanism. Experiments, according to the Baltimore Herald, have been made at a depth in the water of 20 feet, and results so far declared satisfactory. The resisting power of the globes to withstand water pressure at deeper depths is as yet a matter of question. So far as it goes, however, if reports are correct, work done under water as in the removal or investigation of wrecks, etc., will be greatly facilitated. An electric light in the damp parlors of Neptune might not only help the submarine explorer, but add to the little we know of the mysteries of the sea.

ABOUT all the testimony taken by the investigation commission relative to the control of transports has gone to show that the most satisfactory results will be obtained by placing these boats under the command of naval officers, which is the policy of England and several other European governments. There is no division in the expert opinion that has been expressed in regard to this matter. All men whose experience and study entitle them to be considered as authorities believe that the transportation of troops by water is a matter for naval officers to direct; but despite all the testimony that has been given, the War Department has issued a new regulation directing that the transports which must be maintained on account of the garrisons to be stationed in Cuba, Porto Rico and the Philippines, shall remain wholly under control of the army. The readiness of the War Department to profit from the experience of the war in this instance is certainly interesting to say the least.

THE Lidgerwood Mfg. Co., 96 Liberty St. New York, has published a comprehensive catalogue of its hoisting engines, boilers and suspension cable ways. It is 9 1/4 x 11 3/4 inches, and contains 142 pages. Announcement is made of the fact that the company has systematized and improved its shop organization in the past year and all its work, as heretofore, is done on the duplicate part system, from complete set of gauges and templates, which insures the greatest accuracy. An improvement to which special attention is called is the company's patent friction pin oil box. This protects the friction pin and screw point from dust and dirt, and remedies the old evil of exposed surfaces rubbing together while dry under the great pressure necessary to hold the drum in gear while hoisting. The friction pin and screw point now run in a bath of oil. Concerning its standard high-speed hoisting engines, the company says that it has over 13,500 now in use. In the new improved friction drum used by the company, the friction is of the Beekman patent double cone type. It is composed of sectors of well-seasoned hardwood bolted to the spin wheel and turned off to suit the flanges of the drum with which the surfaces engage when in gear. The drum is loose on the shaft, on which it has long bearings, and is free to revolve without appreciable resistance. Upwards of 100 pages in the catalogue are given up to various types of hoists. The cableway illustrations and descriptions are interesting, particularly the system as adapted to open pit mines and to quarries.





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CLEVELAND, O., NOVEMBER 17, 1898.

THE Dominion government erect grain elevators to encourage and protect trade, the opposite to the rule in the United States where private firms do this class of work and ask for, or rather would prefer no assistance, oversight or interference whatever from the government.

WITH several large shipbuilding contracts already placed and a number of others going through the preliminary stages, lake shipyards will, in all probability, be kept busy during the coming winter season. It is not alone shipyard work, however, that enters into the construction and completion of modern high classed tonnage industries. Almost from Maine to California are benefited in a greater or less degree before a large, modern built steamer is equipped to enter into the competition for commerce on the lakes.

UPON recommendation of Captain A. S. Crownshield, chief of the bureau of navigation of the Navy Department, a course over which to speed torpedo boats built on the Atlantic coast has been selected on the Delaware river, just below the mouth of Christiana creek, near Wilmington, Del. The course upon which the speed tests are to be made is a mile long, and was chosen by Captain Crownshield after its selection had been urged by Commodore Casey and Captain Cottrell, of the Massasoit. As the government proposes to have numerous torpedo boats built, many tests of speed may be looked for in the near future. The Mackenzie, just completed at the Hillman shipyard, Philadelphia, will be the first vessel to be speeded over the new course, and the test will probably be made in two weeks.

THE Navy Department has called for bids on the large dry dock to be built at the Boston navy yard. The following particulars regarding the construction of the dock have been published for the guidance of the bidders: Length, 750 feet; width on the floor, 80 feet; width at top, 114 feet; width at entrance, 95 feet; depth to floor, 40 feet; draft of water on the sill, 30 feet. The dry dock will be located parallel with the present granite dry dock and distant about 300 feet. It will be constructed of granite or concrete faced with granite. If built entirely of granite, there will be used in its construction about 576,000 cubic feet of cut stone and about 1,390,000 cubic feet of rubble masonry. If the dock is built of concrete faced with granite there will be about 256,000 cubic feet of cut granite and about 1,710,000 cubic feet of concrete. The caisson will be a steel gate in the shape of a vessel, 95 feet long, 36 feet deep and 25 feet beam. The pumping plant will consist of three centrifugal pumps, 45 inches in diameter, driven electrically from the central electrical plant of the yard.

SOME months ago, Russian government officials visited the lakes to learn what we were building in the way of ice-crushers. A very large powerful ice crusher for the Detroit river ferry traffic was built in Cleveland some years ago, and she has proved a most staunch, serviceable craft in keeping open winter communication across that river. Other craft built in Detroit, walk through several feet of ice all winter and keep a channel open across the Straits of Mackinac. The Russian officials were well pleased at all they saw and heard, but their contract was eventually placed on the other side of the Atlantic and at a point where they have no ice to contend with. This vessel, named the Ermack, has just been launched, and we learn from our foreign exchanges that her dimensions are 305 ft. in length by 71 ft. beam by 42½ ft. in depth, with a displacement of about 8,000 tons on 25 ft. draft. She will have four sets of machinery, three aft and one forward, indicating 10,000 h. p. Accommodation will be provided for 30 first, 10 second, and 50 third class passengers. The vessel, in addition to conveying vessels through the ice, is capable of carrying a heavy cargo. It is expected that in a very short time, by the aid of the Ermack, the principal trade routes which depend on Baltic ports will be kept open in winter. Col. Swan, in proposing "Success to the Ermack," said that forty years ago the first ice-breaker was built in their yard. The Ermack is the largest ice-breaker in the world, and will, it is believed, keep the Baltic open during the whole of the winter, and later on, while still the winter gripped the Kara Sea, proceed round there, and some weeks earlier than is the case now, force a navigable passage to the rivers. Capt. Vasilieff, in responding, said that in the Ermack the intellect and scientific skill of man would overcome nature and overwhelm the elements, and he was convinced that ice in the future would be no more hinderance to navigation than fogs were at present. The suggestion will occur to those interested that if the Baltic can be kept open and winter navigation can be carried on around the north of Europe to the Kara Sea, why should traffic not be more regular on the lakes during the winter? No lake ice-crusher could be built 42½ feet in depth though, as her bottom would be too near the top of the lake.

IT APPEARS that the old thieving, wrecking spirit has not yet died out of the habits of the denizens of the West Indies, though we hardly expected to find it so pronounced at the enlightened British port of Nassau, however, the stranded ex-Spanish cruiser Infanta Maria Teresa had hardly drifted ashore before the enterprising natives of that vicinity looted her of everything movable even to walking away with a temporary laid deck. If only as an object lesson, the United States should call upon the local officials at Nassau, through the proper channels to find, return and surrender each and every item that had been stolen from the stranded and now presumably totally abandoned hull, or if the Cat Island natives are not under the jurisdiction of the Nassau authorities then reparation should be made by those who are in authority over them. Thieving and robbery from a vessel in distress, even if temporarily abandoned is the meanest sort of dishonesty under heaven, and laws against such looting were promulgated away back in the middle if not the early ages of the world, so that in all time people have not been quite able to distinguish the difference between what belonged to them and what was rightfully owned by others, though this is the age when such a distinction is generally strictly enforced and ought to be more markedly so in the case of stranded vessels. We reach down to the West Indies in this instance, because it is a concern of the government, it is also an international question and while private interests could do nothing but protest and then be laughed at for their pains, the United States could send a note of warning to some effect, so that, when in the future an American vessel involuntarily visited a coast, either home or foreign, respect would be observed for the property rights of American citizens. Wrecking was at one time thought to be fair game and the Cornish child's evening prayer is said to have wound up with "God bless mammy, God bless daddy and send a ship ashore before morning." This is near the locality where the ill-fated Mohegan was recently cast away yet these same people or rather their descendants are now always willing and eager to rescue and succor shipwrecked people and hold lost property subject to the wishes and orders of its owners.

THE New York correspondent of Fairplay, London, by no means evinces a spirit of fairplay in thus attacking one of the most competent officials in the U. S. marine service. He

writes as follows: "The present U. S. Commissioner of Navigation, who is a hold-over official from the last administration, and at one time a warm advocate of free ships, has made a number of rather radical rulings in the management of his department, but probably none more so than that just announced that hereafter no American vessels will be granted registry or license under more than one name or with a compound name. Thus if a man wishes to christen his vessel after himself he can only give her either his Christian or his surname, the H. H. Smith must be simply the Smith, etc. Although the idea is undoubtedly a good one, and it is generally admitted that the tendency of American owners to christen their vessels with long personalities should be curbed, yet it is felt that the commissioner probably had no right to enforce a law on the subject, and an appeal to higher authorities may be made." Why should the unique name of Smith be singled out? Are there not enough Brown's, Jones or Rafferty's to go round? Fairplay's item seems to contain some venom. It is certainly untruthful. "Is there a pickaninny hiding around the woodpile?" The Commissioner of Navigation simply suggested that short clear sounding names would be of general and material advantage to all concerned, as the RECORD fully elucidated several issues ago. As it was not woful ignorance of the New York correspondent of Fairplay that led him into writing such a screed, then a motive can usually be looked for, though in this instance it is not easily perceived.

## NEW LAKE TONNAGE.

There is every indication that lake shipyards will be kept as busy as possible throughout the winter as at least four contracts have been closed within almost as many days. The Globe Iron Works Co., will build a large steel steamer for the Bessemer Line and the American Steel Barge Co. a tow barge or consort for the same owners.

The contract for a new steel passenger steamer for the Northern Michigan Transportation Company, Chicago, has been closed by the Chicago Ship Building Company. The new boat will be 225 feet keel and 40 feet beam, and she will be given triple expansion engines with power to steam eighteen miles an hour. In general finish and accommodations the steamer will compare favorably with any now in service on the lakes. Her cost will be about \$200,000, and the contract calls for the delivery ready for service next June. She will go on the run of the Northern Michigan line between Chicago and east shore ports as far as Cheboygan, Mich.

In addition to the foregoing it is said that Capt. James Davidson will shortly lay the keel for a large wooden steamer, presumably as a convoy for the two large schooners, work on which he has already started. It is also reported that the Union Transit Co., of Buffalo, will replace the Moran which they have disposed of, with a large new steel steamer, to be built this winter and completed in time to enter the trade early next season. While no details of the character of the new vessel are given out as yet, it is intimated that she will be of the latest modern type and dimensions, with all the advantages possessed by the more recent products of lake shipyards.

The rumor has gained ground that another car ferry will be placed on the Detroit, Grand Rapids and Western's line route between Muskegon and Milwaukee. The new steamer it is said will run in conjunction with the car ferry Shengango and in good weather and a busy season will give Muskegon a steamer to Milwaukee every twelve hours.

## ERIE CANAL TRAFFIC.

According to latest figures from the Erie canal, the shipments of grain from the opening of navigation to the present time show a decrease from 32,146,385 bushels in 1896, and 21,940,189 in 1897 to 20,844,783 bushels this year. Flour has also fallen to nothing from 62,050 barrels in 1896 and 15,414 in 1897. These facts cannot help but be significant, and must cause the friends of the canal to look around for reasons and, if possible, apply corrections. The canal is too large a part of the commercial life of the state to permit of any neglect in the matter.

## TO RE-OPEN THE WHEELER SHIPYARD.

It will take just \$15,000 to reopen the Wheeler shipyard. This is the information given to the West Bay City Common Council. It is asked that the council remit the back taxes of \$7,000, and that the remaining \$8,000 be raised by subscription. Two thousand of this has already been pledged by the working men who will get employment, and the remainder, \$6,000, will be asked from the merchants and business men. This is the situation to be presented to a joint meeting of the mayor, treasurer, controller, ways and means committee and citizens on Wednesday evening.



**THAT NEW BUFFALO TUG LINE.**

It was rumored this week that a new line of tugs would be put in Buffalo harbor next season. The story floating about in some sections of marine circles was quite explicit, even going so far as to state that the new line would consist of six boats, which would be brought down from the upper lakes, and that the management would be under control of the Lake Carriers' Association.

A leading vesselman, who is a member of the Lake Carriers' Association, was asked his opinion of the rumor, by the Courier, and for information regarding the alleged proposed line. He showed some surprise.

"I don't believe there is anything in the story," he said. "I am a member of the only active association on the lakes, and I know that no such project has been contemplated by it. Of course, there is nothing to prevent individuals organizing a new tug line or bringing boats here and contesting for a share of the work, but the Lake Carriers' Association certainly will do nothing of the kind. There is nothing in the constitution of the organization which provides for any such speculation. In fact, it would be impossible, under the rules, for it to do so. Might just as well go to mining coal as building boats. Take my word for it, it's only a rumor."

It was intimated by other people, however, that an organization of the large vessel owners for the purpose of putting on a line of tugs for their own use, and incidentally picking up what outside work came in their way, might not be so visionary after all.

There can be, of course, no objection to any individual vessel owner or owners placing a line of tugs at Buffalo or elsewhere. Capt. James Davidson had such a line at the head of the lakes this season, and if he felt so disposed he is just the man to handle his own large fleet in Buffalo harbor, but it would only be to correct abuses or level down extortions, and neither of these features exist in the towing business in Buffalo harbor.

**REVENUE CUTTER MORRILL.**

It having been thought advisable to send the three new revenue cutters, built by the Globe Iron Works Co., of Cleveland, to the coast, the Treasury Department has now sent the Morrill to relieve the Fessenden at Milwaukee, and on her arrival at that port the Fessenden will again take up her station at Detroit.

Rather more than ordinary interest is attached to the Morrill on account of her being in active service at the blockade of Havana, and while chasing a small vessel placed herself under the guns of the Santa Clara battery, at which time she barely escaped being hit.

After being recalled from blockade duty at the close of the war the Morrill was ordered to Norfolk, Va., to unship her guns and prepare for revenue cutter service on the lakes, and to take the station of the Gresham at Milwaukee. Proceeding to ramps yards in Philadelphia after completing the transfer of her guns at Norfolk, she received a new boiler, etc. From Norfolk she went to New York, and there received orders to make all haste to reach Milwaukee before the canals were closed.

The Morrill is smaller than either the Gresham, Algonquin or Onondaga, and was built about nine years ago, since which time she has been in the Atlantic coast service, chiefly at southern ports. Her principal dimensions are, 146 feet in length, 24 feet beam, and a normal draft of from 9 to 10 feet. In order to enable her to scrape through the St. Lawrence system of canals coal was piled on the forward deck, and ballast so arranged as to force her down by the head, while the stern was raised sufficiently to reduce her draft to 9 feet, 1 inch. She rubbed bottom once or twice, but came through uninjured.

The officers of the Morrill are: Commander, Capt. Davis; first lieutenant, F. H. Dimock; second lieutenant, H. F. Fisher; chief engineer, E. P. Weber, and asst. engineer, F. G. Snyder. Her crew is made up of part of the war time contingent and a number of men from the Algonquin and Gresham. These latter are returning to the revenue service, having secured transfers back to the lakes.

**TORPEDO BOAT TRIAL TRIPS.**

The Navy Department have been notified by the builders, Wolfe & Zwicker, of Portland, Ore., that the torpedo boat Davis, which sustained an accident on her last trial trip, has been repaired. The trial board, headed by Commander Drak, are ordered to make another speed test on the Columbia river Tuesday, the 22d instant.

The report from the trial board at San Francisco on the

recent trial of the torpedo boat at Farragut shows that she fell the fraction of a knot below the speed of 30 knots required. The contractors have asked that the boat be accepted on the record made, but the department finds itself bound by the contract to refuse, so that the boat must either be rejected or on another trial must show a clean 30-knot speed.

**NEW RATES FOR ATLANTIC LINERS.**

At a conference between representatives of the Cunard Line, American Line, French trans-Atlantic Co., North German Lloyd Line, Hamburg-American Steamship Co., the Netherlands Line, the Wilson Line, the Atlantic Transport Co. and the Elder-Dempster, Furness and White Star Lines, presided over by Mr. Ismay, it has been decided that two outward and two homeward ocean tracks will be used, one to be in force from January 15 to August 18, and the other from August 18 to January 15. The regulations adopted will be widely circulated and hopes are expressed that all trans-Atlantic vessels and Newfoundland fishermen will recognize them.

**GRAIN ELEVATOR AT HALIFAX, N. S.**

The new elevator which is to be erected at Halifax, N. S., by the government, to facilitate handling grain for export, will be 194 x 137 feet and 155 feet high, with power house 44 feet square, located at the northeast corner of the site. The belt gallery to the wharf will be 65 feet long, traveling over the roof of the freight shed of the wharf. The new wharf will be 696 feet long and 160 feet wide, with five railway tracks running the full length.

In the meantime, as the work of building both the wharf and elevator is progressing slowly, a deputation from Halifax, headed by the mayor, on October 21, appeared at Montreal to urge upon the provincial ministers the necessity of providing a floating elevator to handle the business coming to the city. This elevator would cost \$15,000. The ministers promised an early consideration.

**CHICAGO RIVER IMPROVEMENTS.**

An appropriation of \$400,000, made by Congress last July, will be expended in some extensive improvements to the channel of the Chicago river. The object of the government is to make the river navigable for a standard vessel of 48 feet beam and 432 feet length, which will require dredging and widening of the stream in many places. About 4700 feet of wharf will also be built. South of the 18th street bridge a triangular piece of land containing 11,366 square feet, and north of it two pieces containing 4750 square feet will be removed. At other points the following areas will be removed: Seven hundred feet east of Halsted street bridge 7,700 square feet; at foot of Fisk street 12,054 square feet; at Throop street bridge 19,562 square feet; at the junction of the south and north forks of the river 9,144 square feet; between Hickory and Fuller streets 22,600 square feet; at Archer avenue bridge 20,483 square feet; Erie street bridge 4,650 square feet; Webster avenue 8,888 square feet; and Fullerton avenue 1,537 square feet.

**MONITORS TO BE DOUBLE TURRETED.**

A special from Washington says that Secretary Long has sent a letter to each of the four firms that secured contracts last month to build the single turret monitors, asking them to estimate the increased cost of improved vessels on modified lines just adopted by the board of construction at its session. In the meantime, under directions from the department, work will not be begun on the Arkansas, the Connecticut, Florida and Wyoming until the new estimates are received and considered by the authorities.

The contractors for the four monitors within the amount of their bids, are as follows: The Arkansas, Newport News Co., \$860,000; the Connecticut, Bath Iron Works, \$62,000; the Florida, Lewis Nixon, \$825,000; the Wyoming, Union Iron Works, \$875,000.

The Stirling Boiler Co., of Chicago, are to manufacture for the Cramp Ship Building Co., of Philadelphia, all water tube boilers for marine purposes that the Cramp company may require for ships constructed by them for a period of ten years. The first order placed under this contract is for water tube boilers of the Niclausse type for a battleship and a cruiser now being constructed by the Cramp company for the Russian government. The shops of the Stirling company, which are situated at Barberton, Ohio, will be extended greatly to care for this business. At the recent annual election of the Stirling company all of the old officers were re-elected, as follows: O. C. Barber, president; J. K. Robinson, vice-president; Edward R. Stettinius, secretary.

**CHICAGO-TORONTO YACHTING.**

Representatives of Chicago and Royal Canadian Yacht Clubs met at Toronto on Tuesday to arrange the race for the Canada's cup. The Chicago club was represented by W. R. Crawford, George Warrington, J. B. Berryman and Lee C. H. Thorne. R. C. Y. C. was represented as follows: Commodore Jarvis, C. A. B. Brown, F. H. Gray and E. H. Ambrose. After some preliminary talk the Chicago Yacht Club submitted this challenge:

We have the honor on behalf of the Chicago Yacht Club to challenge your club to sail a series of races for the Canada's cup, subject to the deed of gift and other conditions to be agreed upon. As requested by the deed of gift, we name the 35-foot class as the class in which the races shall be sailed, and August 22d as the first of the days upon which the races shall be sailed.

After three hours' conference the meeting adjourned with all but these three points settled: Time limit, course and date of race, it being agreed to arrange these by correspondence.

The races will be three out of five, with three judges to settle disputes and questions. The first race will be a triangle of twenty-one miles; second, windward and leeward, twenty miles; third, a triangle of twenty-one miles; fourth, windward and leeward, twenty miles, and fifth, a triangle twenty-one miles.

The Canadians are not willing to accept the date named in the challenge, but will insist that the race be sailed in the first week of September.

**UNUSUAL LOCATION OF A PROPELLER SHAFT.**

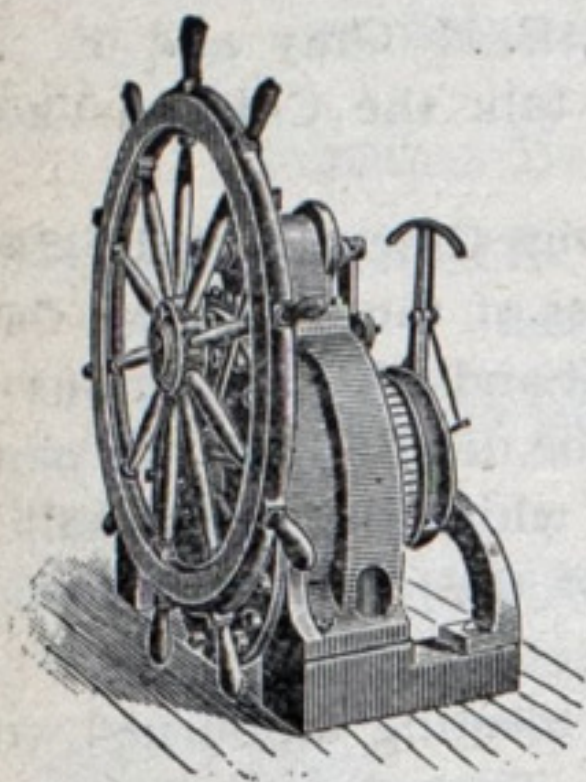
While it has happened several times in years gone by that through accident in design vessels were built with more beam on one side of the center line of keel than on the other, making them lop-sided, it remained for a board of United States naval constructors, away back in the forties, to intentionally locate the propeller shaft of one of the United States vessels off to one side of the keel, and that by as much as 20 inches. Passed Assistant Engineer F. M. Bennett, U. S. N., writing of this vessel—the cruiser San Jacinto, by the way—in his interesting book on "The Steam Navy of the United States," says that three of the members of the board that settled upon the plans, while eminent in the business of ship designing and building, were new in experience with screw-propelled ships, and they could not bring themselves to agree to any application of steam power that involved cutting a big hole for a shaft through the stern-post. Nothing apparently would do but locate the propeller shaft in the specified odd position, and this entailed its projection far enough beyond the stern to allow the screw to work abaft the rudder. The screw itself, as designed, was a ponderous six-bladed affair, weighing about seven tons, and this weight, overhanging the stern five feet at least, was manifestly a menace to the safety of the ship. The whole arrangement was very properly condemned by a board of engineer officers appointed to examine the San Jacinto and her machinery, and rational changes were recommended. The propeller was altered accordingly, but the shaft passage through the stern having been cut, the recommendation of the board regarding its modifications was not carried out.—Cassier's.

THERMODYNAMICS of the Steam Engine, by Prof. Cecil H. Peabody, professor of marine engineering and naval architecture, Massachusetts Institute of Technology, is published by John Wiley & Sons, of New York, and Chapman & Hall, Limited, London. This text book which is characterized by its excellence and clearness of type and printing, is in the best style of Rankine and Clerk Maxwell, but with the valuable addition that all theories are rigidly compared with experimental facts, and with examples carefully illustrated by clear views of the mechanism to which the thermodynamical theories are applied. At the same time this book, as so many others of the same type, is expressed as regards its mathematical principles by such redundancy of symbols, and resulting equations are deduced almost entirely by the higher methods of pure mathematics, such as by logarithms, differential and integral calculus that the theoretical work can only be appreciated by experts in the higher mathematics.

DURING the year 1897 Chicago alone received over 28 millions of wheat, nearly 117 millions of corn, 118 millions of oats, nearly four millions of rye and over 17 millions of barley. If we estimate the price of wheat at 60 cents, corn 25, oats 22, rye 40 and barley 30, which figures are surely a low estimate of the price of the grain in the country, the value of 283,505,593 bushels of grain which was shipped to Chicago is eighty millions of dollars.



## Queen City Patent Hydraulic Steerer.



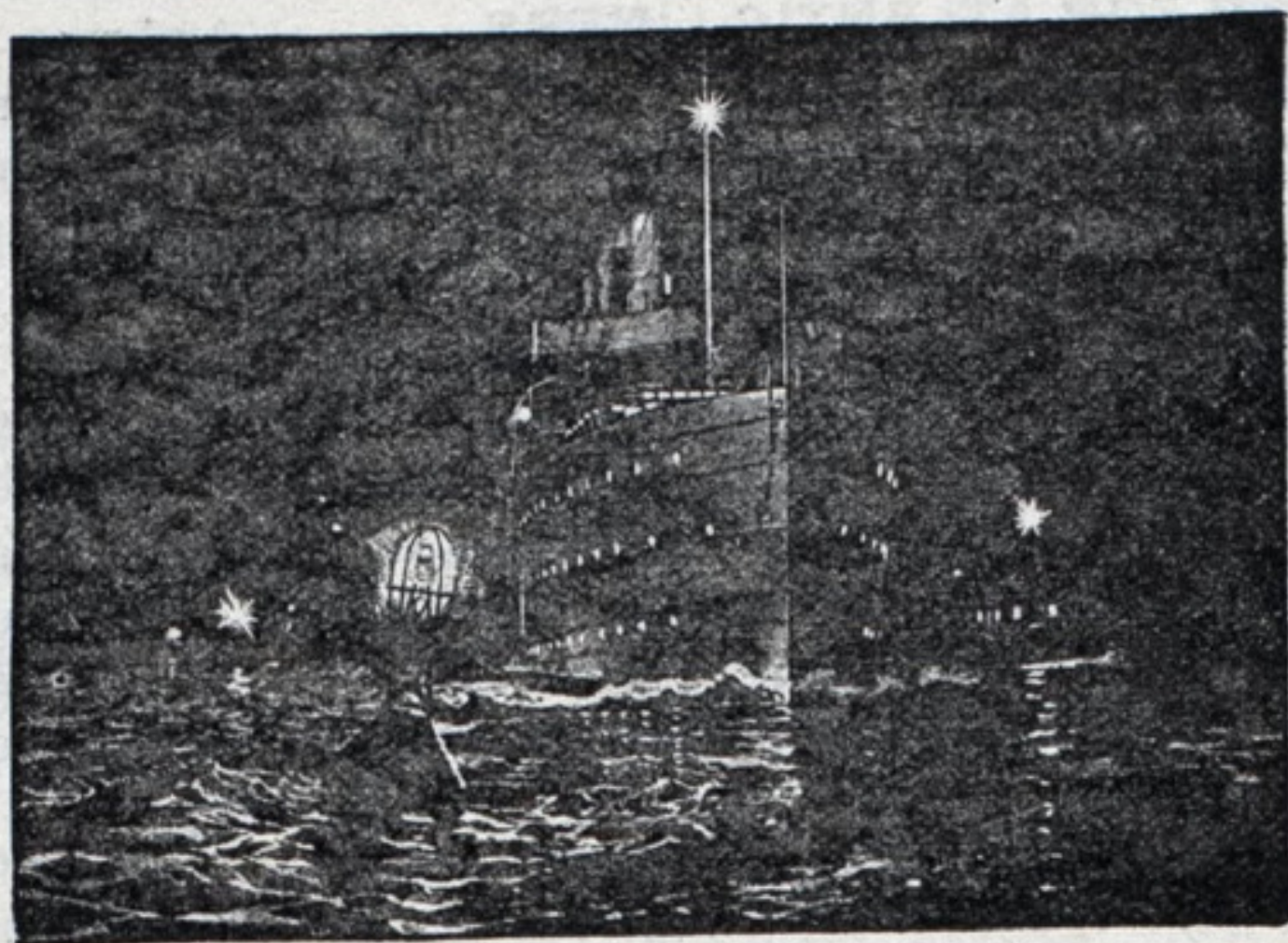
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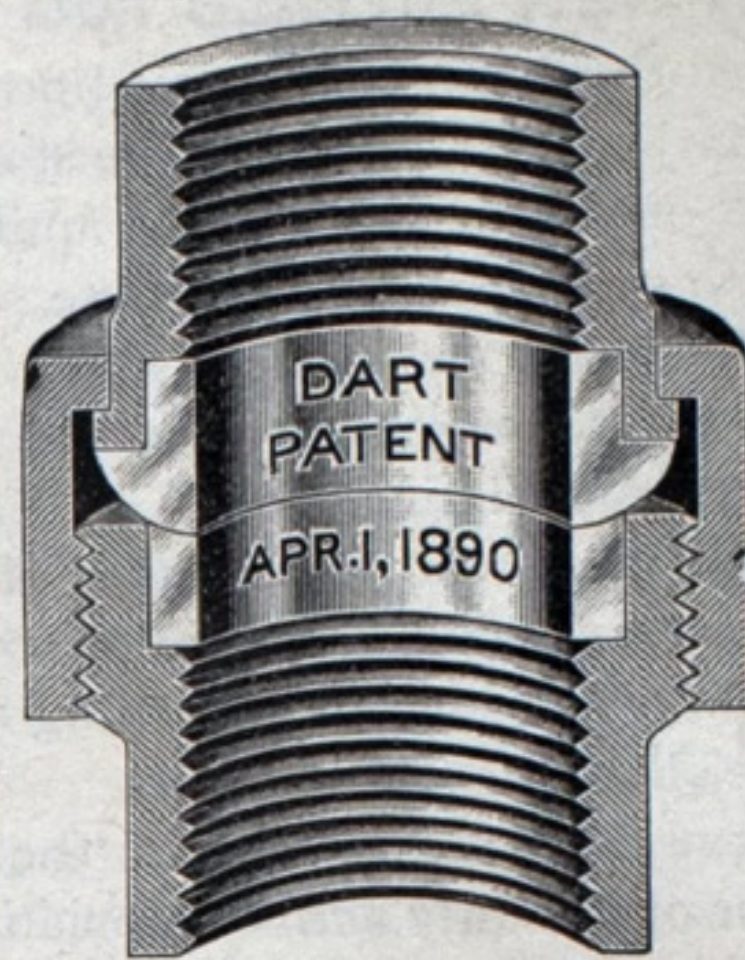
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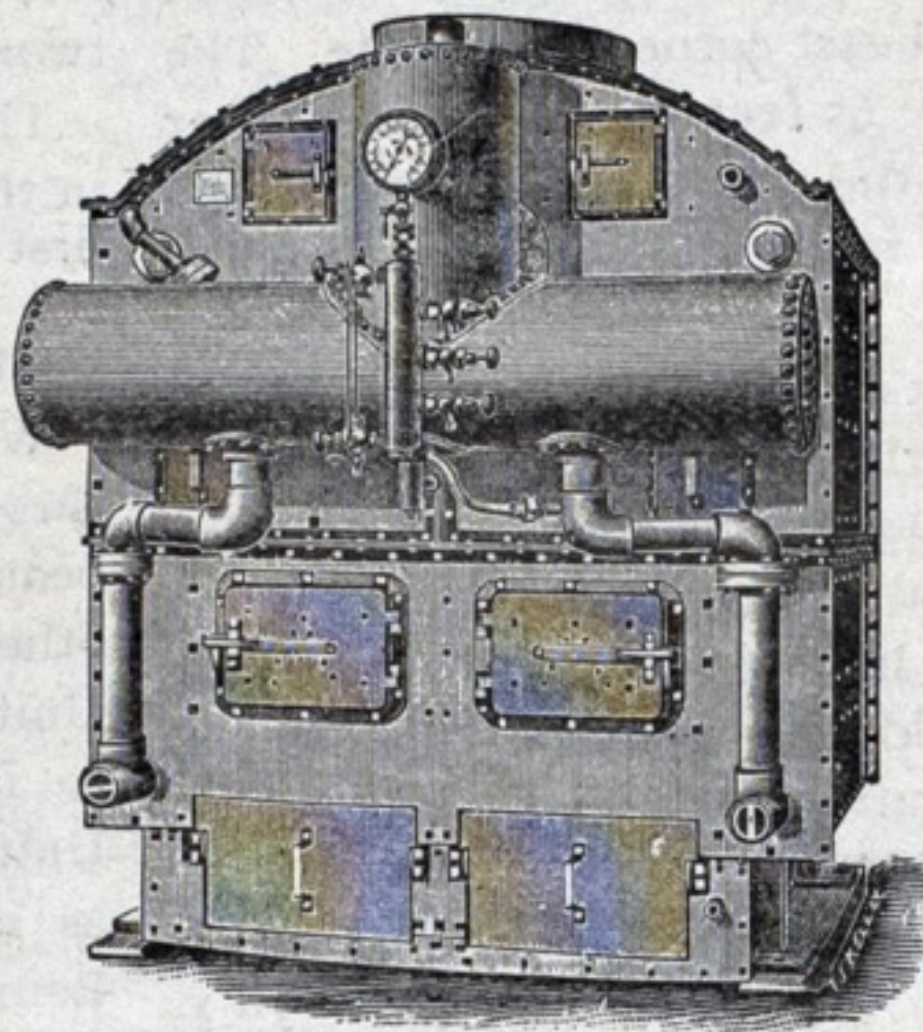
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### CORROSION OF IRON AND STEEL.

A subject of never-ending controversy between iron manufacturers and steel manufacturers is the relative corrosion of their products. The Engineering News has this further communication on the subject, the writer being no less an authority than Prof. R. H. Thurston, of Sibley College, Cornell University:

Years ago I endeavored to secure reliable and sufficient data on the subject, to serve as a guide in practice. I found very little available material. There should be to-day much more, now that the use of steel has come to be general in all departments of engineering. The results of my researches in technical literature and reports are published in Sec. 192, Vol. II., of my "Materials of Engineering," page 328, et seq. In brief, they were:

(1) Corrosion can ordinarily only occur in the presence simultaneously of oxygen, moisture and carbon-dioxide (Calvert).

(2) The gases of the locomotive accelerate corrosion by their peculiar acid quality, arising from their contents of sulphur oxides; iron and steel absorbing acids somewhat greedily (Kent).

(3) Cast iron, in dilute solutions of acids, is rapidly acted upon, especially in warm water—in the flow of water of condensation, from engine condensers, for example—losing the metal, and often leaving the carbon and other matters; the piece retaining its form and general appearance unchanged, but with enormously reduced density. The metal is said by the uninformed to have been "changed to plum-bago" (Calvert).

(4) Corrosion is rapidly effected with cast metal irregularly and quickly cooled in the mold, less rapidly where slowly and regularly cooled (Mallet).

(5) The rate of corrosion is ordinarily constant over long periods of time; but the removal of the rust retards oxidation, as it destroys the voltaic couple composed of metal and of oxide.

(6) Hard iron, rich in combined carbon, rusts slowly. A different quality of iron in metallic contact with it, increases the rate of oxidation—presumably by forming local voltaic couples. Hard steel rusts less rapidly than soft.

(7) Foul sea-water, as the bilge water of a ship, corrodes iron and steel rapidly.

(8) The rate of corrosion is too variable to be stated in exact terms. The hulls of iron ships have been found to

average a rate of not far from 1-16 inch in 25 years, when carefully painted. Iron roofs exposed to smoke and gases of locomotives are sometimes ruined in three or four years.

(9) The observations of Thwaite are as follows: The time of endurance in years may be expected to average about:—

$$T = W \text{ by } C L;$$

where W is the weight of metal in pounds per foot length of the member; L is its length of perimeter, inside and out, is hollow, and C is a constant, which has the following values, and the magnitude of which measures the relative loss by corrosion.

MATERIAL.	Sea		River		Im-pure air.
	Foul.	Clear.	Foul.	Clear or in air.	
Cast iron.	0.0656	0.0636	0.0381	0.0113	0.0476
Wrought.	.1956	.1255	.1440	.0123	.1254
Steel.	.1944	.0970	.1133	.0125	.1252
Cast iron, no skin.	.23	.0880	.0728	.0109	.0854
Galvanized	.09	.0359	.0371	.0048	.0199

Average for sea water: Cast iron, in contact with brass, copper or gun bronzes, 0.19 to 0.35; wrought iron, in contact with the same, 0.3 to 0.45.

This is for unpainted metal, of course. For painted iron or steel it is safe to multiply the endurance, as above, by two or more.

The precision of the above figures would seem to indicate accurate measurements, and to settle the question as respects the various metals; but, unfortunately, the quality of the steel and the influence of varying proportions of carbon remain unmeasured, although soft and hard steels were compared with variable results. It has been assumed by the writer that the very softest steels, which contain less of the hardening elements than common iron, would oxidize more rapidly and the harder steels less rapidly than wrought iron; while the rate of corrosion of wrought iron is subject to great variation of the chemical composition, and the mechanical structure, of its always heterogeneous mass.

### THE CANADIAN "SOO" CANAL.

Reports from Ottawa indicate that traffic through the Canadian "Soo" canal is falling off. An official of the American "Soo" canal gave as his reasons for this, the following explanation: He says the Canadian canal approaches do not compare with ours. If vessels keep right in the channel at both approaches on the Canadian side they may not hit the boulders which string along its edge; but if a heavy beam wind is blowing they cannot be kept in the channel, and frequently hit something, much to their own damage.

The American channel is free from all obstructions. Besides, vessels can save some miles of distance by using it in preference to the other. All that drives them to the Canadian canal is the knowledge that our own might be so filled up as to delay them for some hours in locking through, and in such cases the vessels are pointed over to the less used Canadian canal although the preference is given in all cases to the United States canal.

### DOMESTIC COMMERCE, CUYAHOGA DISTRICT.

The following were the receipts of iron ore and shipments of coal for the Cuyahoga district during October: Iron ore—Cleveland, 295,114 gross tons; Ashtabula, 314,381; Fairport, 95,203; Conneaut, 187,240; Lorain, 70,160; total, 962,098 gross tons. Coal—Cleveland, 90,995 net tons; Ashtabula, 62,398; Fairport, 19,300; Conneaut, 9,268; Lorain, 10,996; total, 192,957 net tons.

From the foregoing it may be learned that Cleveland leads in the volume of coal shipments and Ashtabula in the receipts of iron ore. The port of Conneaut has also become a considerable factor in the Lake Erie iron ore trade and no doubt a large portion of her receipts represented tonnage that formerly discharged at Cleveland.

A SHORT time ago the Russian Admiralty made an interesting experiment with cellulose made of Indian corn pith as a packing for vessels. A cofferdam 6 feet long, 6 feet deep, and 3 feet broad, was packed with blocks of cellulose made from this material, which was supplied by an American company. The cellulose within the dam was compressed until it weighed eight pounds for each cubic foot. A 6-inch solid shot was fired through the dam, striking it at a distance of about 20 inches from the bottom. The shot struck the dam at a velocity of 1,000 feet a second, and passed clear through both the iron walls and the cellulose packing. Less than a half pound of the cellulose was carried out by the projectile. The water compartment of the dam was filled, giving a pressure of nearly five feet of water on the perforated surface. In just half an hour a moist spot began to show on the outer surface of the dam, but it was evident that the moisture had come along the bottom of the packing, and not through the path of the shot. In four hours no water had come through the shot's path, and only six gallons had passed under the packing.



## MARITIME LAW.

## THE LAMINGTON.

PETERSON V. THE LAMINGTON.

(District Court, E. D., New York, June 6, 1898.)

**MARITIME LAW—TORT COMMITTED ON FOREIGN VESSEL—WHAT LAW GOVERNS.**—When a person employed as a seaman on a British vessel is injured on the high seas by the alleged negligence of the owner to provide ropes for the gear of the ship, or, if such ropes be provided, by the negligence of the master to replace faulty ropes with proper ropes thus supplied, and such seaman files a libel in rem in a district court of the United States to recover damages for such injury, the liability is measured by the British law. For such cause of action the British law does not confer the right to an action in rem.

**SAME—JURISDICTION.**—For a tort committed within the exclusive jurisdiction of a foreign country an action cannot be maintained in this country, unless the action would be maintainable by the laws of both countries.

This was libel in rem, by John Petersen against the British steamship Lamington, George W. Duff, claimant, to recover damages for personal injuries.

In the Superior Court for Suffolk county, Oct. term, Justice Hardy made an entry "demurrer sustained" in two reinsurance cases, which are of special interest to the insurance fraternity, as the points successfully raised by the defendants are believed to be novel in the practice of this state.

The Boston Insurance Co., formerly the Boston Marine Insurance Co., brought suits against the Globe Fire of New York, and the Insurance Co. of the State of New York. The declarations in each case averred, that, on, or about Oct. 19, 1897, the defendant company made with plaintiff a contract of reinsurance from one year from date, in the sum of \$50,-

000, and issued a policy of reinsurance, annexed to the declaration, under which defendant agreed to pay one-half the loss the plaintiff should suffer by fire under marine policies of insurance, to the amount of \$50,000 and that the premium paid on each policy was \$5,000. Loss ensued which the plaintiff sought to recover from the reinsuring companies.

The defendants demurred to the declarations, claiming that the reinsurance policies in suit were illegal and void, because they purported to cover hulls, freights, cargoes and other insurable interests insured under marine policies against fire in any part of the world, which plaintiff had on Oct. 19, 1897, or might have or should take during the currency of the reinsurance policies, namely during the year following that date.

Arguments on the demurrer were had on September 7, last.

The defendants contended, among other things, that the Boston Insurance Co., the original insurers, could not lawfully stipulate for indemnity against risks which it had not assumed at the time of the issuance of the reinsurance policies; that reinsurance presupposes the existence of a first contract, the original contract of insurance; that the reinsurance policies in suit, so far as they purported to cover risks which the Boston Insurance Co. had not assumed at the time of issuance of the reinsurance policies, were wager policies; that the Boston Insurance Co. could on Oct. 19, 1897, sustain no possible loss by a part of the events purporting to be reinsured against, namely, policies in which it should, for one year issue, and risks which it should assume, if the two reinsuring policies had not been made.

That it was immaterial that the loss which had been incurred by the plaintiff under policies which it had issued prior to the issuance of reinsurance, because each of the two contracts of reinsurance was entire, and if void in part, was void altogether, and could not be apportioned, the premium paid for reinsurance being \$5,000, and no other premium was paid, or was to be paid, according to the policies.

That, therefore, the plaintiff by the reinsurance policies, in suit, stipulated for something the law does not permit.

That the attempted reinsurance was not only on hulls and on freights which might be earned while being transported in ships not then in existence and on cargoes which might be placed therein, but also on profits which might be derived therefrom, and might be expected to be insured by plaintiff.

That such reinsurance was a reinsurance of an expectation, and was illegal.

The court sustained the demurrers.

The Jackson & Sharp Company, of Wilmington, Del., have received the contract from the Chesapeake & Ohio Railroad for a car ferry 250 feet long, 34 feet wide and 12 feet deep, and capable of carrying 16 cars. She will be used in the transfer service between Newport News and Norfolk, Va.

## ADDRESS WANTED.

John Norvell, please write to Myles Maloney, 912 7th street, Port Huron, Mich. Important news. If anyone knows of Mr. Norvell's whereabouts, please advise above named.

41-45

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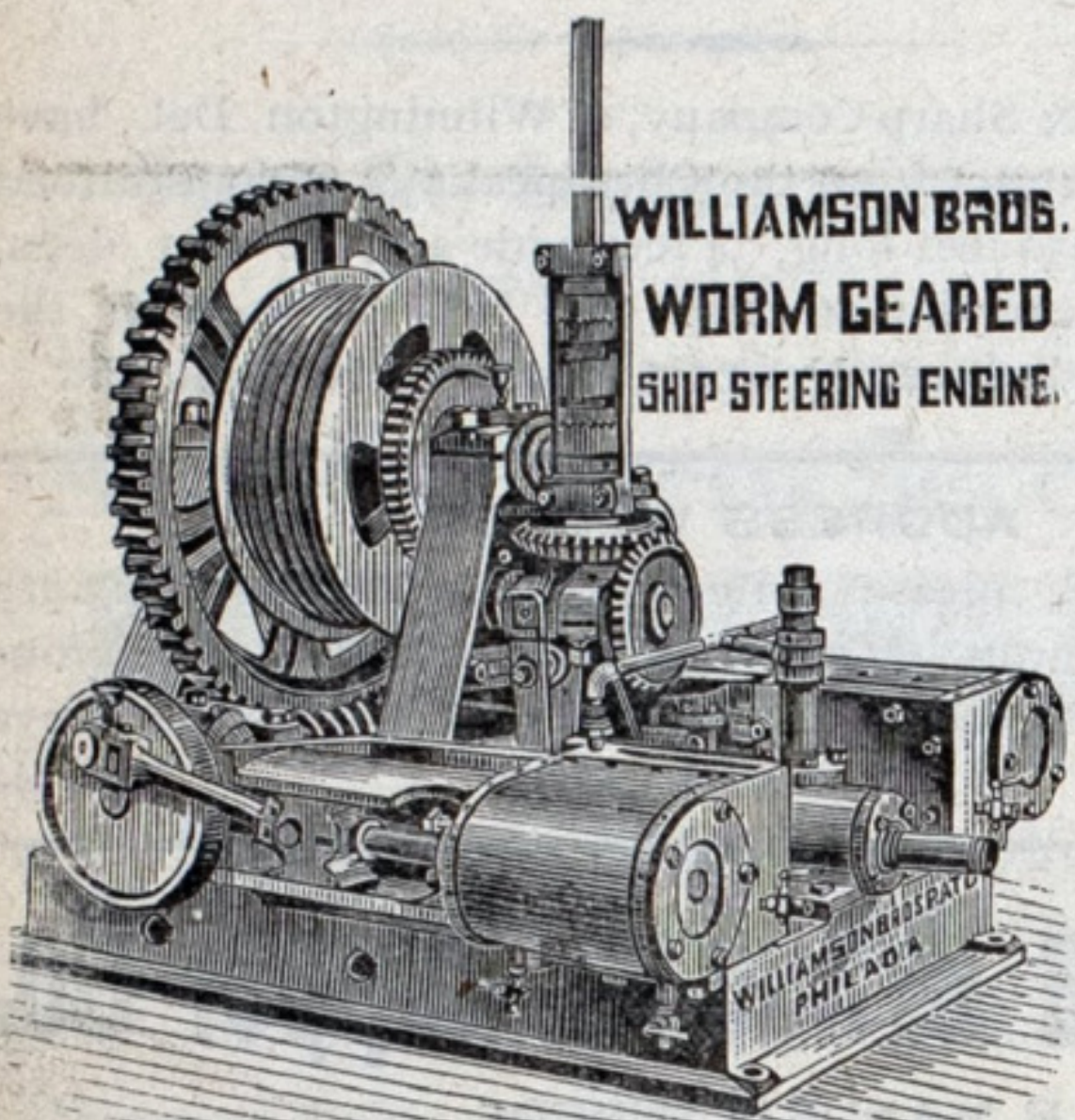




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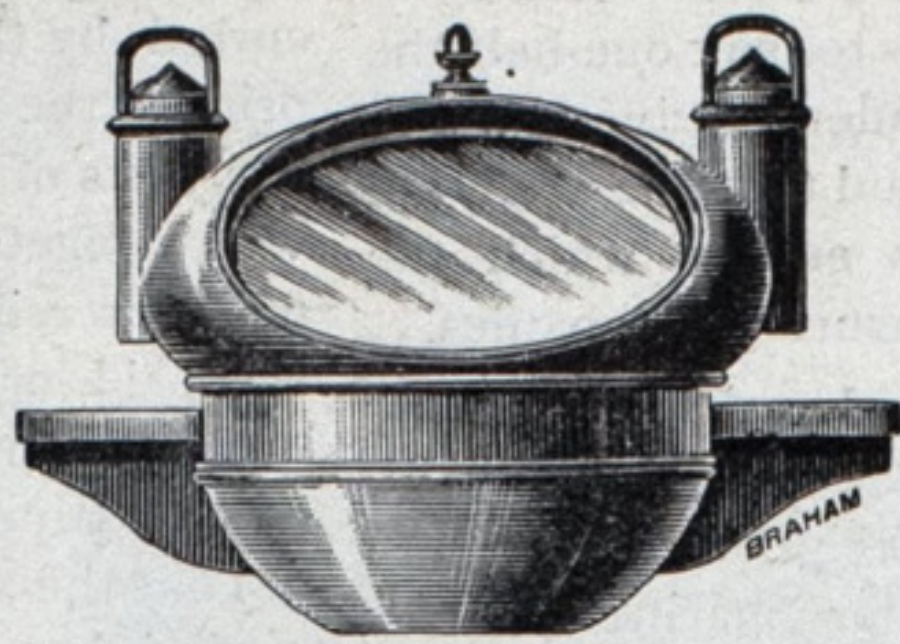
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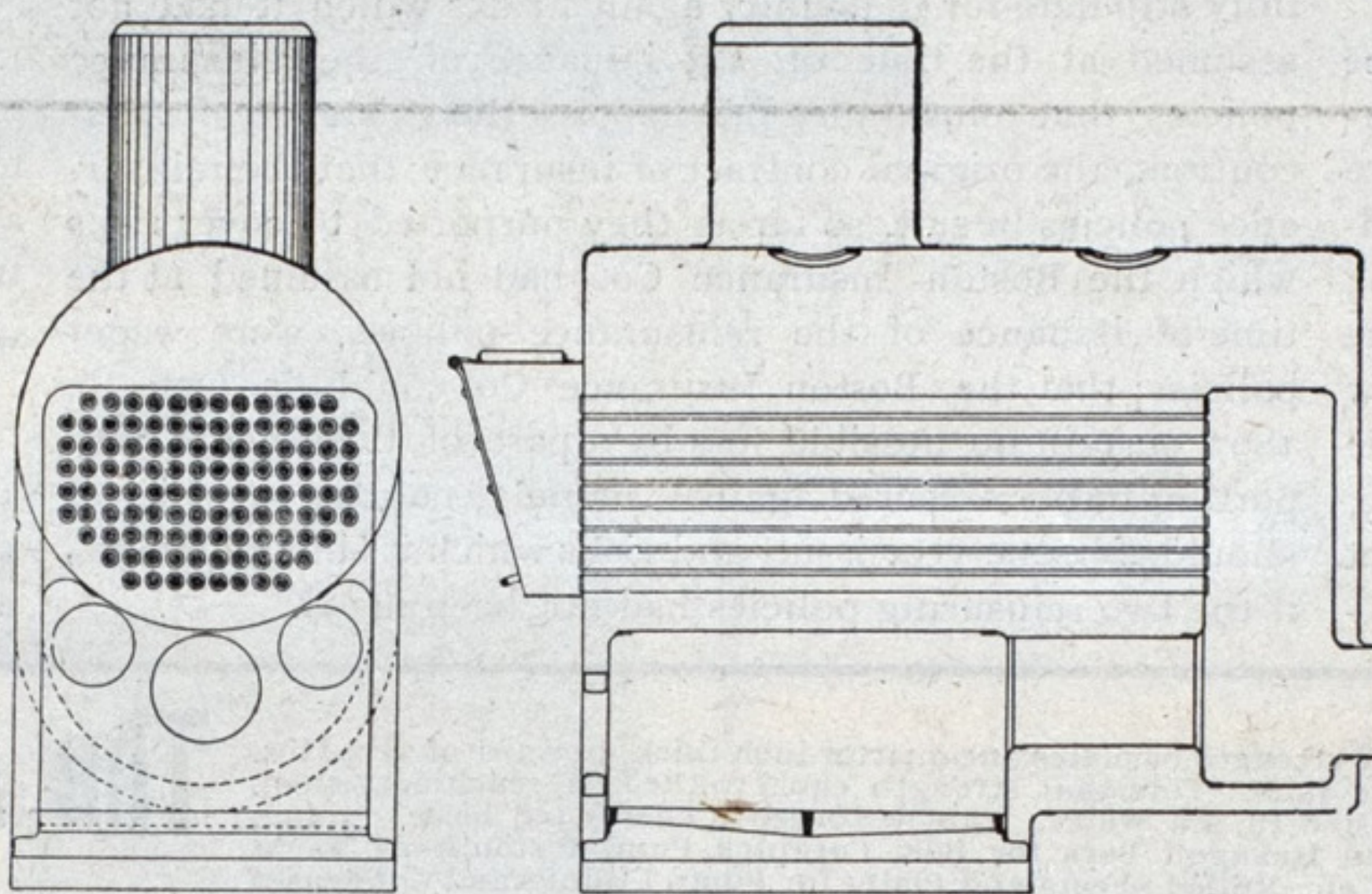
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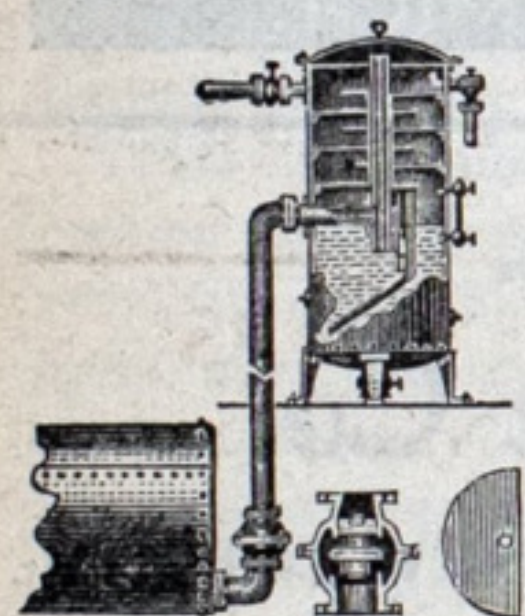
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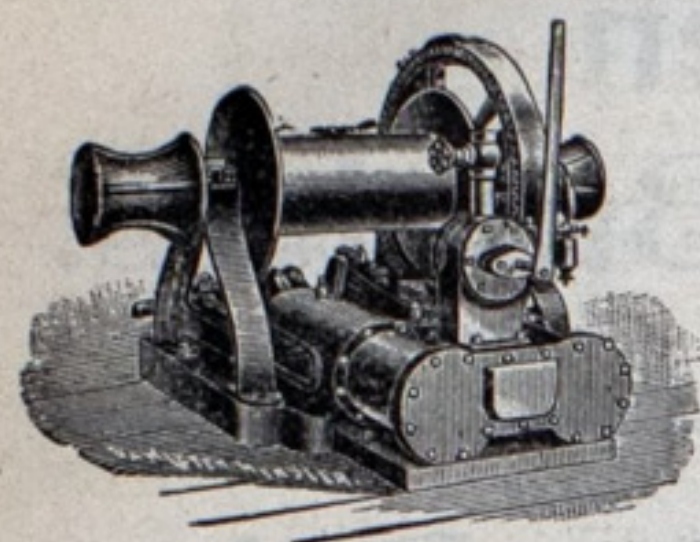
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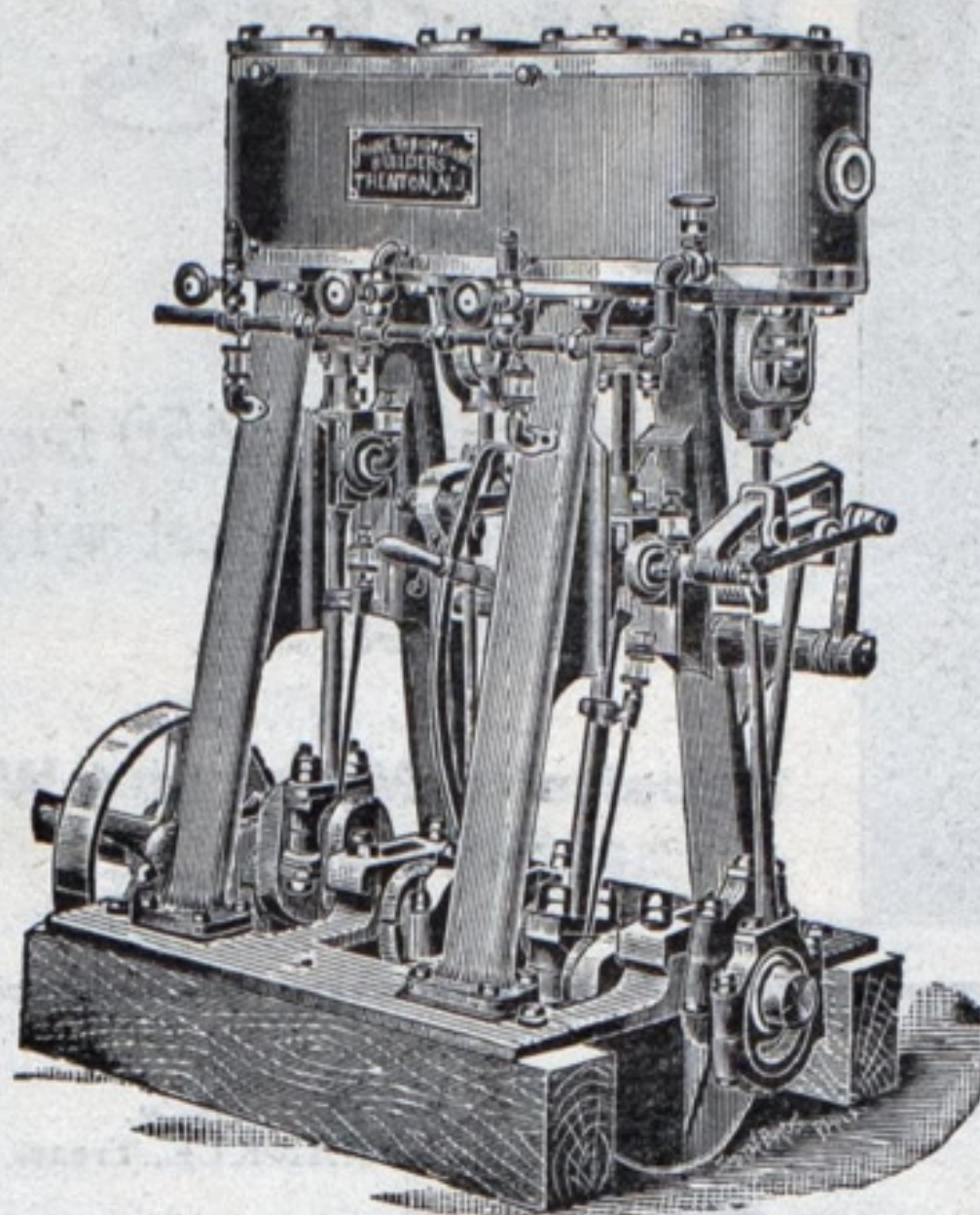
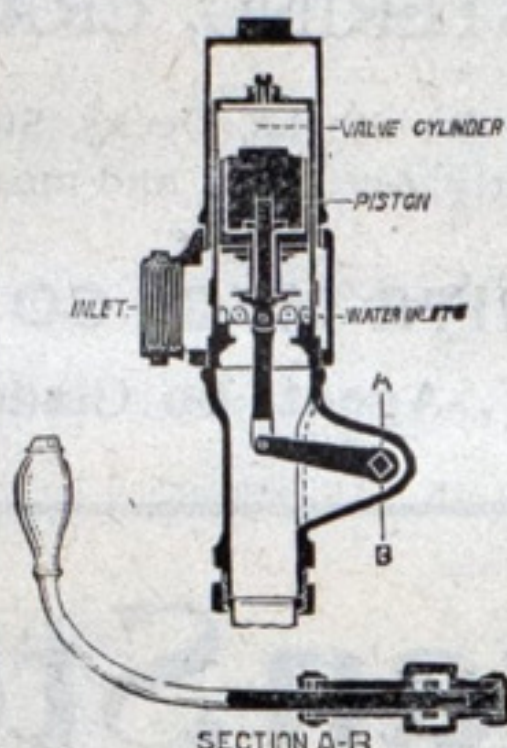
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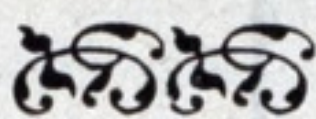
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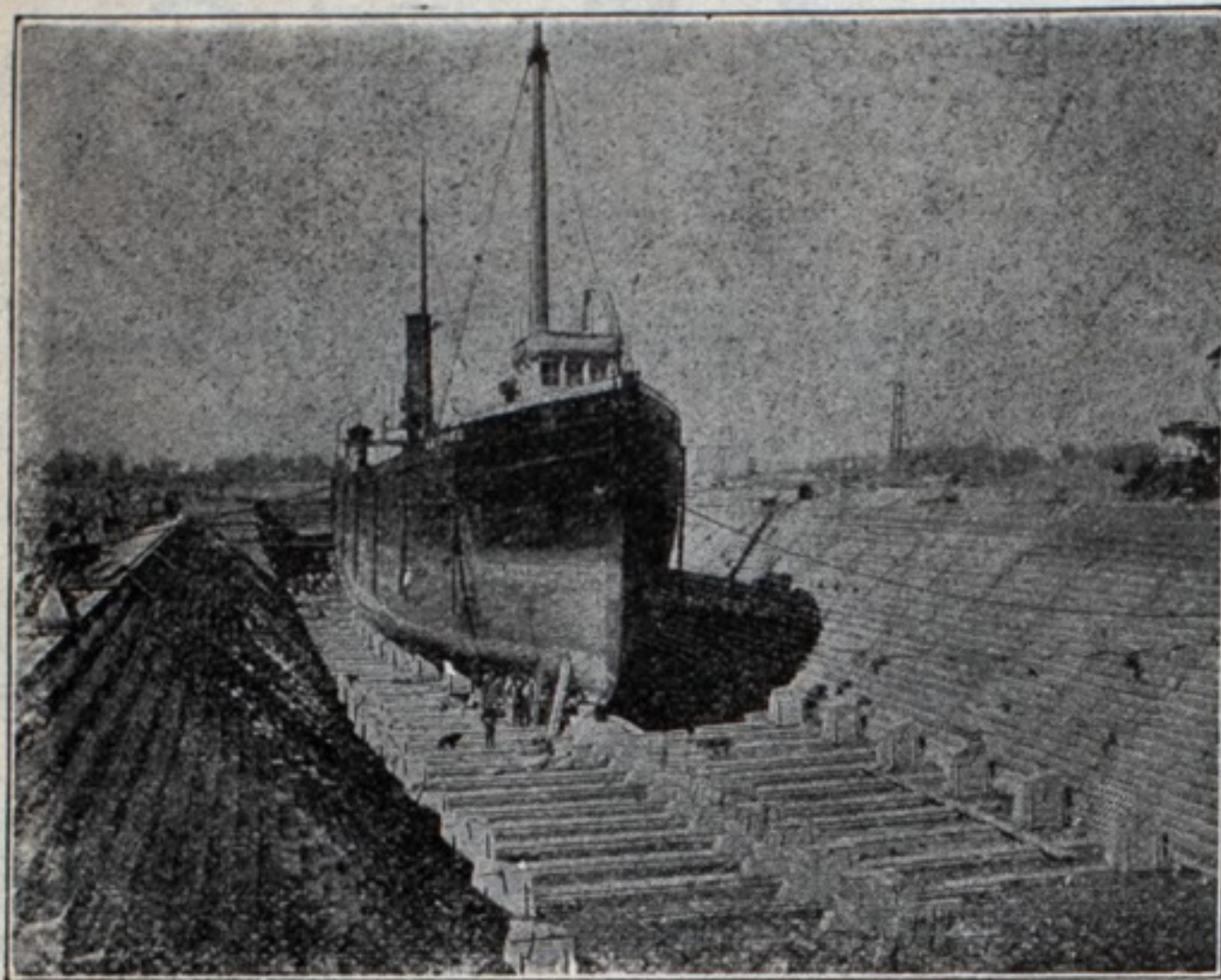
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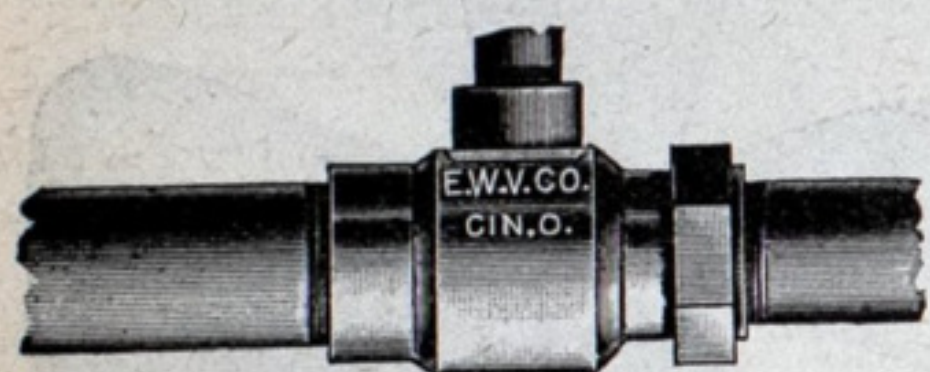
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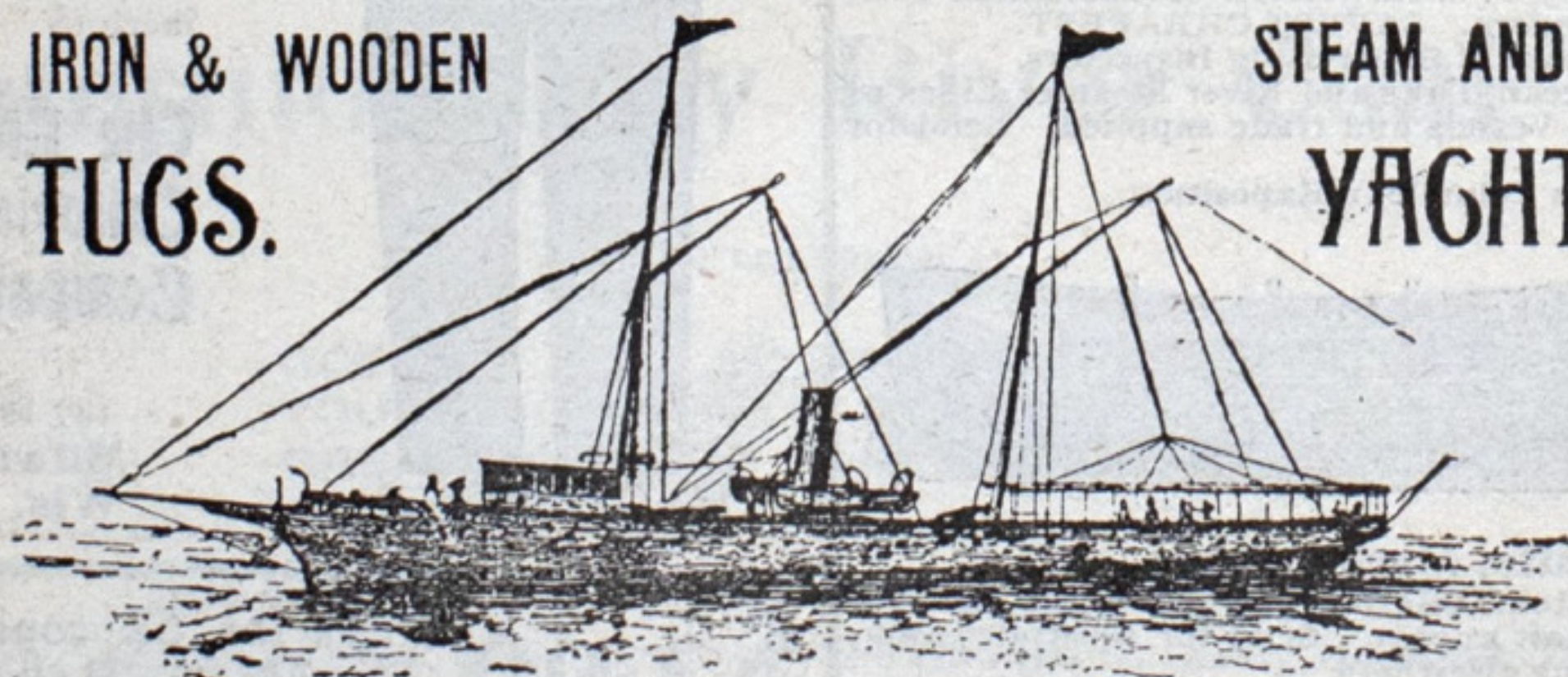
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NO BLISTERING, CRACKING OR SCALING.

Made especially for Stacks, Decks, Sides, Hulls, and Water Compartments.  
Strictly Anti-Rust, and most durable and economical.

DETROIT GRAPHITE MFG. CO., 542 River St., Detroit, Mich.

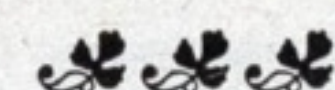
C. H. HOYT, Agent, 60 Gladstone St., CLEVELAND, O.

## American Steel Barge Co.

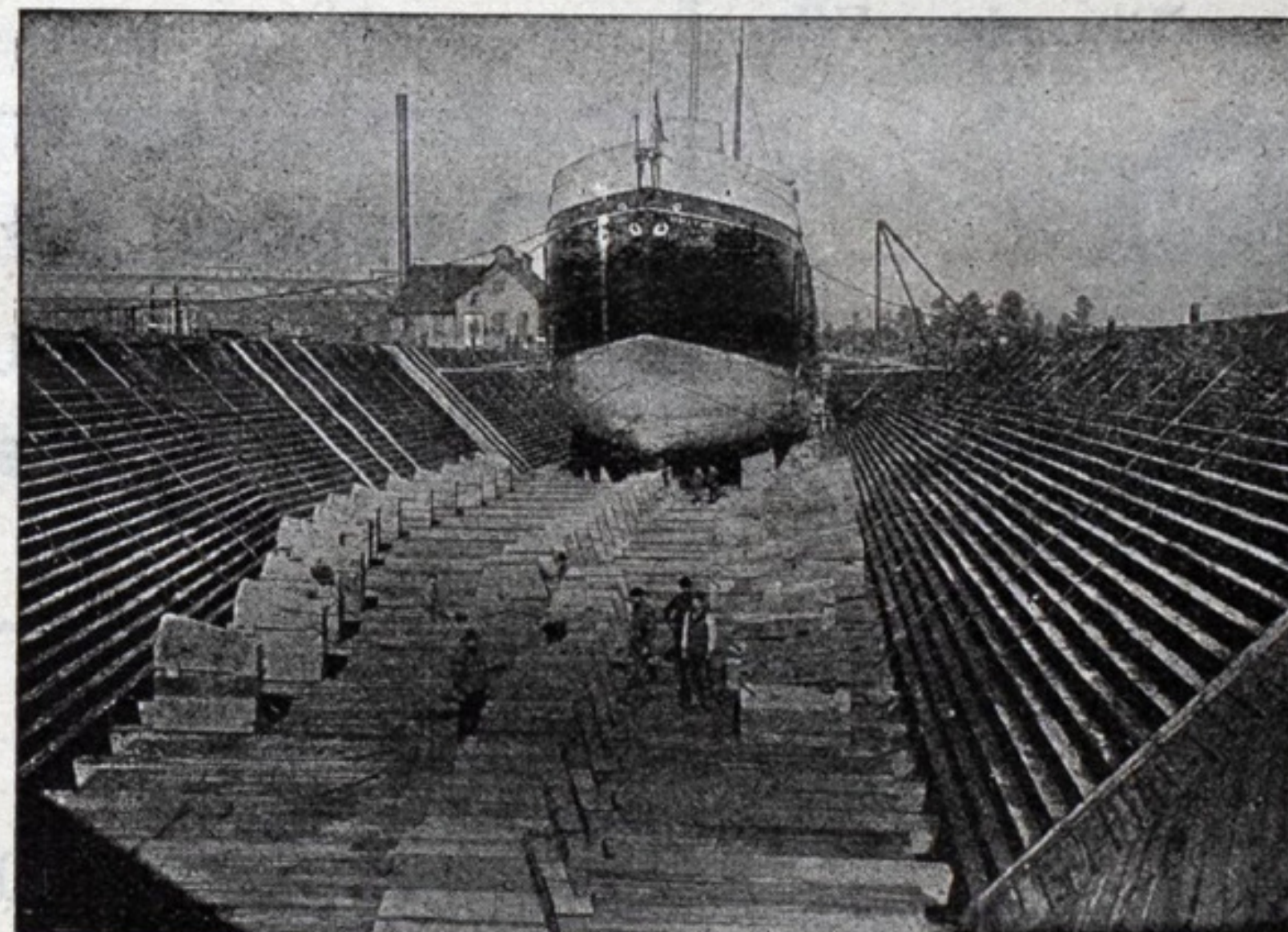
### STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.



Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.



### SIZE OF DOCK

Length, Extreme.....	587 feet.	Entrance, Top.....	55 feet 9 in.
Breadth, Top.....	90 " 4 in.	Entrance, Bottom.....	50 "
Breadth, Bottom.....	52 "	Depth over Sills.....	18 "

LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

SUPERIOR, WIS.

A Number of Propeller Wheels in Stock at Dry-Dock.

BARRY'S—CHICAGO.

....DON'T FORGET THAT....

## Barry Bros.' Independent Tug Line

Have a Wrecking Outfit. We have purchased the Grummond Wrecking Appliances, and are prepared to offer our patrons good service.

Office, 240 South Water Street  
TELEPHONE, MAIN 273.

Three Long Whistles Call our Tugs.